UGANDA PROTECTORATE.

ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR THE

Year ended 31st December, 1934.

(PART I).

Published by Command of His Excellency the Governor

ENTEBBE:
PRINTED BY THE GOVERNMENT PRINTER, UGANDA.
1935.

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DEPARTMENT OF AGRICULTURE.

ANNUAL REPORT, 1934.

(PART I).

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Deputy Director of Agriculture	Entebbe ...	2 ...	97
Head Office	Entebbe ...	2 ...	91
Senior Agricultural Officer	Kampala ...	281 ...	15
Agricultural Laboratories and Kampala Plantation	Kampala ...	265 ...	18
Botanic Gardens	Entebbe ...	60 ...	38
Jinja Office	Jinja ...	67 ...	101-105

Principal Experiment Stations:

(1) Kampala. (2) Serere, Teso. (3) Bukalasa, Mengo.

(4) Bugusege, Bugishu. (5) The Botanic Gardens, Entebbe.

Subsidiary Stations:

(1) Ngetta, Lango. (2) Wanyange, Busoga.

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Senior Botanist	G. W. Nye, B.Sc. (Lond.), Dip. Agric. (Wye).
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Clerks :—

J. C. S. De Souza. M. A. S. Menezes.

D. C. De Souza.

DEPARTMENT OF AGRICULTURE.

ANNUAL REPORT

FOR THE YEAR ENDED 31ST DECEMBER, 1934.

PART I.

As usual, this part of the Report is intended to present a review of the agricultural position of the Protectorate during 1934, and details of the experimental work of the Department will be found in Part II of the Report which will be published later when the results of the experiments in progress at the end of the year have been received.

2. The following table summarises the exports of the more important agricultural products for the last three years:—

ARTICLES.	Unit of quantity.	1932.		1933.		1934.	
		Quantity.	£	Quantity.	£	Quantity.	£
Cotton lint	*bale of 400 lbs. net*	207,326	1,584,172	294,828	2,682,210	285,642	2,927,796
Cotton seed	*ton*	56,311	168,366	81,274	262,539	35,689	85,947
Coffee, raw	*cwt.*	87,077	223,162	100,444	210,638	154,298	293,313
Tobacco, manufactured ...	*lb.*	6,353	1,045	10,385	1,412	10,057	1,309
,, unmanufactured	*lb.*	153,794	6,925	469,750	16,338	912,346	26,307
Cigarettes	*lb.*	67,300	18,190	48,890	13,378	64,848	11,737
Tea	*cwt.*	117	567	269	1,355	247	1,427
Sugar, refined	*cwt.*	41,049	45,012	144,229	128,802	294,685	240,593

The total exports for the year were valued at £3,773,766 (port of shipment), this figure representing a net increase of £309,156 over the corresponding figure for 1933.

3. Weather conditions during the year were, on the whole, unfavourable, and in many areas the total rainfall was below average.

The dry season which normally extends from the end of November to the middle of February was unusually severe and prolonged, and delayed the planting of the spring food crops. Following this dry period there was a short period of heavy rainfall in April and May, which was then succeeded by a dry period covering June and July.

As these two months are the main cotton planting months, the effect of this dry spell was to delay the main planting of the cotton crop, and some anxiety was felt as to the effect on the crop of the shortened growing season which might be expected to follow. Fortunately, the autumn rains continued later than usual in the areas west of the Nile and benefited the late sowings.

In the areas east of the Nile rainfall throughout the second half of the year was deficient, and this condition adversely affected cotton crop prospects.

Notes on the Major Economic Crops.

COTTON.

4. *(a) 1933-34 Crop.*—The buying season in the Eastern and Northern Provinces opened on the 29th January and buying commenced in Buganda three weeks later. As a result of the favourable harvesting conditions in January the estimate of the crop was increased from 275,000 bales to 285,000 bales of 400 lbs. net, and this estimate

proved to be singularly accurate in that exports of lint from the Protectorate during 1934 totalled 285,642 bales of 400 lbs. net. Largely on account of the orderly marketing encouraged by the operation of the Cotton Zone Ordinance, 1933, coupled with favourable weather conditions at harvest, the grade of the crop was probably the highest ever obtained. The arrangement whereby minor chiefs were stationed at buying centres in the Eastern and Northern Provinces worked well.

The returns of seed cotton purchased during the buying season amounted to 162,293 tons, equivalent to approximately 272,600 bales of 400 lbs. net, of which the Eastern Province produced 76,553 tons, the Buganda Province 65,624 tons, and the Northern Province 19,457 tons, the small balance being produced in the Toro District of the Western Province.

The direct contribution to the revenue of the Protectorate during 1934 amounted to £111,106 derived from collections of cotton export tax at the rate of two cents per pound on all lint cotton exported from the Protectorate.

(*b*) *Cotton Seed.*—The low market value for cotton seed coupled with the restriction on export from certain areas necessitated by the spread of Pink Bollworm reduced considerably the economic range for export of this product, and resulted in a total export through Mombasa of 35,689 tons valued at £85,947, as compared with 81,274 tons valued at £262,539 in the previous year. Sales were effected at prices varying from Shs. 13 to Shs. 17 per ton, although the former value represents the cost to the ginner of bagging the seed at the ginnery. Prices rose at the end of the year to Shs. 25 per ton and it is anticipated that the exports during 1935 will exceed those for 1934 by a considerable margin.

The shipping of cotton seed over the railway on a monthly quota basis, in order to avoid " peak " conditions continued to work smoothly under the efficient administration of the Uganda Cotton Association.

(*c*) *1934-35 Crop.*—The following table gives details of the approximate acreages planted in the various districts together with the comparative figures for the previous crop :—

	1933.		*1934.*
EASTERN PROVINCE.			
Busoga District ...	225,048	...	233,996
Budama „ ...	68,082	...	72,154
Bugwere „ ...	124,480	...	129,241
Bugishu „ ...	45,330	...	45,579
Teso „ ...	112,222	...	112,326
TOTAL ACRES ...	575,162	...	593,296
BUGANDA PROVINCE.			
Mengo District ...	164,022	...	227,223*
Entebbe „ ...	106,037	...	87,395*
Masaka „ ...	33,914	...	50,756*
Mubende „ ...	46,905	...	59,857*
TOTAL ACRES ...	350,878	...	425,231
NORTHERN PROVINCE.			
Lango District ...	78,736	...	78,440
Bunyoro „ ...	28,986	...	28,000
Gulu „ ...	21,033	...	21,800
Chua „ ...	18,000	...	21,107
West Nile „ ...	5,547	...	7,137
TOTAL ACRES ...	152,302	...	156,484
WESTERN PROVINCE.			
Toro District ...	12,160	...	10,588
GRAND TOTALS ...	1,090,502	...	1,185.599

* NOTE.—The acreages for Buganda for the 1934-35 season were computed on a new basis. In the past it was the custom for chiefs to estimate the number of quarter-acres which had been planted in their areas. This year an attempt was made to introduce the system which has given such accurate results in the Eastern Province since 1930 and the acreages were calculated from sample plot measurements made by Cotton Instructors.

Following satisfactory planting weather in May, a dry spell in June and July interfered seriously with the planting of the main crop, over forty per cent. of the crop being planted after July. This late planting was to some extent aggravated by the late harvest of the grain crops, a large area of which is planted with cotton following harvest of the grain.

Satisfactory rains were received towards the end of the year and the advent of the dry season was delayed until the end of the year.

The unfavourable growing conditions seriously affected the crop in the drier and light soil areas of the Eastern Province where damage by blackarm and sucking insects was severe.

At the end of the year the condition of the crop warranted an estimate of 250,000 bales, but at the time of writing this report the heavy rainfall during February has adversely affected prospects and it is not anticipated that the crop will exceed 220,000 bales.

(*d*) *Pink Bollworm* (*Platyedra gossypiella*).—A further spread of this pest has to be recorded and surveys carried out at the end of the year showed that the pest had spread into parts of Buganda other than those detailed in my report for 1933.

The Pink Bollworm situation was reviewed by the Plant Pests Board in May and the Board recommended that Government should consider immediately the temporary increase of the Entomological staff by one unit with a view to expediting the work on Pink Bollworm. Government approved the recommendations and an Entomologist has been appointed, whose work will be confined to research on this pest for a period of five years.

Opportunity was taken on my return from leave at the end of the year to return together with the newly appointed Entomologist *via* Egypt and the Sudan with a view to studying the measures adopted for combating Pink Bollworm in those territories.

Research during the year has led to some doubt as to whether the resting larval stage in the seed does occur to any extent in the Protectorate except in the drier and hotter areas bordering the Sudan.

(*e*) *Ginneries.*—Ginneries licensed to gin and bale cotton during the year were as follows: —

	Number of Ginneries.
Indian licensees	105
European licensees	21
Japanese licensees	10
African licensees	1

A total of 137 as compared with 134 in the previous year.

(*f*) *Local Lint Market.*—During the year, local transactions in baled lint totalled 1,742 contracts, representing 307,134 bales.

(*g*) *Legislation.*—(*i*) The cotton zoning legislation referred to in my last report operated throughout the whole of the year. The results in the Eastern and Northern Provinces were very satisfactory, in that with the security engendered by the creation of the relatively small zones in those areas, the ginners in each zone were encouraged to form associations or "pools" and the operation of these pools enabled marketing of the crop to proceed in an orderly manner with that requisite attention to grading which is so necessary if the quality of the staple crop of the Protectorate is to be maintained. In no zones other than the Gulu, Chua and West Nile—Madi Zones was it necessary for Government to interfere in the fixing of minimum prices at purchase from the grower. In the three zones referred to weekly minimum prices were fixed by Government on account of the small number of ginners operating and on account of the difficulty of telegraphic communication.

At the end of the 1934 cotton buying season Government appointed a Committee to review the first season's operation of the Cotton Zone Ordinance, and that Committee recommended, *inter alia*, that the principle of zoning as embodied in the legislation should be continued, that native observers should be appointed to attend the deliberations of the Price Fixing Committee and that the Buganda—Toro Zone should be sub-divided into three zones, *viz.*, Masaka, Mubende—Toro, and Mengo—Entebbe, but that in setting up these zones every endeavour should be made to obtain the

agreement of the Buganda Government. I am happy to record that after a full explanation of the position to the Native Ministers full agreement was reached and the three new zones were proclaimed. The zoning legislation to date has resulted in a more orderly marketing of the crop, an elimination of a considerable amount of uneconomic motor transport and in a great improvement in the grade of seed cotton at purchase.

The creation of cotton zones has also facilitated the organisation of distribution of cotton seed of new strains, and with the continuance of zones it should be possible to select for the different conditions in individual zones.

(*ii*) During recent years on account of the intense competition which had developed for the crop, a system had developed whereby cotton buyers employed native agents or "touts" who went out into the villages inducing growers to dispose of their cotton to the agent's employer. These agents were employed on a commission basis and were solely concerned with quantity and not quality.

This development had taken place particularly in Buganda, and the Buganda Native Government, very wisely recognising the harmful effect such a development might have on the quality of the Buganda crop, requested Government to take action to make such touting illegal, and this was done by making it an offence to purchase or offer or agree to purchase or offer to provide a purchaser either personally or by agent at any place other than a building licensed for such purpose.

COFFEE.

5. A satisfactory increase in the acreage under this crop can be recorded, and the value of this crop as indicated by exports now represents a considerable sum.

After the long dry season at the end of 1933 and the beginning of 1934, as was to be expected, a very heavy flowering took place with the break of the rains, and good crops were harvested in all areas.

During the first quarter of the year there was a distinct improvement in the prices of all coffees following on an improvement in the statistical position brought about by the destruction of coffee by the Brazilian Government who up to the end of 1933 had destroyed a total of 26,000,000 bags, coupled with smaller mild crops and an increase in world consumption.

This improved position was not, however, maintained as early in the year Germany imposed restrictions on the import of mild coffees into that country. Germany normally accounts for approximately fifty per cent. of the re-exports of coffee from the United Kingdom, and the virtual closing of that market had an adverse effect on prices in London for mild coffees.

The average price realised in London for Uganda arabica during 1934 as shown by records of sales in the London auctions was Shs. 64 per cwt., as compared with Shs. 55/5 in 1933.

The exports of raw coffee during the year totalled 154,298 cwts., valued at £293,313, an increase of 53,854 cwts., and £82,675, respectively, over the 1933 exports.

Arabica Coffee.

(*a*) In the Bugishu District of the Eastern Province, the chief centre of the native arabica coffee industry, the acreage extended from 3,527 acres in 1933 to 4,013 at the end of 1934.

A strict control of nurseries and distribution of seedlings is maintained, and in general the cultivation of the plots of coffee is of a high standard.

Nursery work is so organised that four central nurseries are planted with seed selected by the Agricultural Officer, and the seedlings from these central nurseries are transplanted into Native Administration nurseries when in the "violet leaf" stage.

The Chiefs then compile a list of growers who wish to obtain plants, and no native is allowed to take seedlings unless he has maintained his old coffee satisfactorily, and carried out the cultivation and holing for the new plants.

In this way sound development is taking place and the growers realise that coffee growing requires intensive cultivation in which good cultivation is rewarded by satisfactory yields. Mulching with plantain trash is now standard practice and careful attention is paid to insect pests.

In this connection it is of interest to record that in the case of coffee stem borers, of which two or three species occur, the policy was adopted a few years ago of stumping and burning affected trees, with the result that the growers are on the watch for the early signs of attack and deal with the pest by probing, so avoiding the loss of two or three crops, which follows the compulsory stumping and burning carried out in badly infested trees.

With the centralisation of pulping under the Bugishu Coffee Scheme some check can be kept on the incidence of *Antestia* by calculating the percentage loss on pulping which to a large extent reflects the damage due to *Antestia* in the proportion of "light" beans resulting.

At the end of the year an *Antestia* survey had been approved, and should this survey indicate that the pest has increased in certain areas, action will be taken to develop hand-picking by the growers in the affected areas.

The 1933-34 crop from this area amounted to 985 tons of parchment, as compared with 734 tons from the previous crop.

(*b*) Extension of native arabica coffee growing is also taking place in Ankole, Kigezi and Toro Districts of the Western Province, a total additional acreage of approximately 1,650 acres having been planted in these areas during 1934.

During the year the marketing of the crop in the Ankole and Kigezi Districts was brought under the control of the Native Produce Marketing Ordinance. Buying centres were established and the purchase of the crop was restricted to holders of licences issued by the District Commissioners concerned, licensees being limited to not more than six at any one centre. Comprehensive Coffee Rules were brought into operation, which, *inter alia*, made it an offence to purchase wet or musty coffee, and providing that all coffee purchased must be stored in weatherproof stores.

Robusta Coffee.

The small robusta coffee industry in the Bwamba area of Toro District was brought within the scope of the Native Produce Marketing Ordinance during the year.

Until the construction of the road from Bwamba to Fort Portal is completed this small coffee growing area situated on the north-western side of the Ruwenzori range is rather isolated and all produce from the area has to be carried by head load over the mountain to Fort Portal.

It was therefore decided to invite tenders for an exclusive licence under the Ordinance for a period of three years, and the successful tenderer under the terms of his licence is called upon to pay a fixed weekly price to the growers based on current prices for robusta coffee ruling in Kampala.

The organisation of the marketing under this system has so far worked very well.

In Buganda, the main robusta coffee area, very little improvemet is to be recorded in the preparation and marketing of the native robusta crop, and the organisation of marketing at the growers' end has become a pressing need if the value of the coffee grading legislation in force is to have its full effect.

It should never be forgotten that coffee is grown for export in competition with Brazil which country has ruthlessly destroyed millions of bags of low grade coffee in order to maintain a reasonable relation between production and consumption and to maintain reasonable quality standards. We have inevitably to meet this competition and the only possible way to do so is to improve still further the standard of quality. The Coffee Grading Ordinance resulted in measurable improvement in quality but it is necessary to bring about further substantial improvement in order to hold our place in the world markets on the basis of prices that are remunerative to the growers.

TOBACCO.

6. The report of the Tobacco Officer will be found on pages 33—35.

During 1934, the production of dark fire-cured leaf in Bunyoro approximated one and a half million pounds, approximately double the production in the previous year, the increased demand coming chiefly from local buyers.

The steady aim in tobacco production so far has been the production of a high grade leaf by prohibiting the purchase by licensees of inferior leaf from the growers. During the year such a policy was in danger of being negatived by propaganda instituted amongst the growers by irresponsible parties who offered to buy leaf which

had been rejected by licensed buyers at prices considerably higher than those being paid for high grade leaf. As was to be expected, such propaganda had a decided effect on the grading, there being a tendency by the growers to fall from the relatively high standard which has so far been attained. Energetic action was taken to put a stop to this unsatisfactory development.

Early in the year the attention of the Government was drawn to the development of the local cigarette and tobacco manufacturing industry, and the possible effect of an unhealthy development, on the tobacco growing industry in Uganda. With a view to instituting some measure of control over the erection of local tobacco and cigarette factories, the Excise Duties Ordinance, 1931, was amended to give the Governor in Council power to refuse, on certain grounds, the issue or transfer of a licence to manufacture tobacco or cigarettes. The Ordinance, as amended, also stipulates that the Governor in Council may require any applicant or holder of a licence to enter into a bond that he will comply with the regulations governing the production and disposal of the tobacco and cigarettes manufactured in his factory.

As was mentioned in my report for 1933, experimental plantings of tobacco in the West Nile District established the fact that a good type of fire-cured leaf could be produced in that area. During the year under review, as will be seen from the report of the Senior Agricultural Officer, Western Division, the cultivation of the crop in the West Nile District made substantial progress, and production increased from 20,000 pounds to approximately 140,000 pounds. During 1934 steps were taken to bring the marketing of the tobacco produced in this district under the control of the Native Produce Marketing Ordinance and, as from June, 1935, the West Nile will become a "declared area" in which the purchase of native-grown tobacco will be permitted only under licence.

Experimental plantings of varieties of tobacco suited to air-curing were undertaken in the West Nile District, in Lango District and at certain centres in the Eastern Province. Samples of leaf of this type produced in the West Nile were submitted for valuation and report to a number of firms in England and, in general, satisfactory reports were received.

SUGAR.

7. The total acreage under cane on the two estates, Lugazi and Kakira, shows a slight increase as compared with the preceding year, the figures being 10,842 and 10,542 acres respectively.

The total production of refined sugar, however, by these two estates amounted to 21,497 tons which is approximately half as much again as was produced in the preceding year when the figure was 14,180 tons.

The position has now been reached, therefore, when Uganda alone produces substantially more sugar than is consumed annually in Kenya, Tanganyika Territory and Uganda.

Moreover, under the Customs Management Ordinance permission has been granted for the importation into Tanganyika Territory of sugar cane crushing machinery for a new mill and this mill will be in addition to those already in existence in these territories.

In a few years' time, therefore, the production of sugar in three East African Territories will be substantially greater than it is at present.

Because of geographical position involving long railage to the coast and payment of Suez Canal dues, the possibilities of producing sugar for an export market in competition with the sugar producing colonies and countries of the world are extremely remote and the local sugar industry must necessarily pay greater attention to exploiting the local market than it has done in the past and to this end drastic local retail price reductions are required.

The one Uganda mill that is not a member of the Sugar Distributors' Association again enabled united action to be taken by entering into an Agreement with Government to export a fair share of sugar and to sell locally at the same prices as the Association.

The operation of this voluntary agreement as between Kakira and the Government removed any necessity for immediate legislative action but steps were taken to explore the possibility of drafting legislation that might be acceptable to all concerned.

A draft Bill was prepared by the Kenya Government and in connection therewith a Commission was set up to take evidence under oath that would enable fair quotas to be assigned to each mill in the event of agreement being reached in respect to legislation involving a quota system.

TEA.

8. During the year the East African Territories came within the International Tea Restriction Scheme and as a result of an agreement reached between the three territories concerned the area to be planted to tea in Uganda during the next five years has been set at 2,000 acres. As over 8,000 acres were applied for the invidious task of allocating the 2000 was by no means easy. I do not anticipate that Uganda, for geographical reasons, will ever become an important exporter of tea but there is undoubtedly a local market of considerable size waiting to be exploited. In order to capture this market, however, it will be essential for planters to produce a low priced article, and the organisation of distribution and sales is likely to become an important factor in the development of the local tea industry.

Agricultural Education.

9. The report of the Superintendent of Agricultural Education becomes of increasing interest as this work expands. In a territory that is based upon agriculture this work is of vital importance and although we are still feeling our way, always in complete collaboration with the Education Department, I feel that this year's report of the section shows that substantial progress has been made. Separate courses have been given to Makerere students, to rural Chiefs, to elementary vernacular schoolmasters, to smallholders, and to Departmantal Instructors, and a large number of school gardens have been inspected. All this must help towards giving an agricultural bias in the Educational system and towards teaching the extremely important lesson that agriculture is an honourable calling. It also brings nearer the day when the essential propaganda required for bringing about a better spacing of cotton, mulching of coffee, reduction of soil erosion, better field management of tobacco, etc., can be made more effective through the employment of more Makerere-trained assistants and trained subordinate instructors.

Conferences in the United Kingdom.

10. When on leave in the United Kingdom the opportunity was taken to attend three conferences. The first was the International Locust Conference held appropriately enough in the Moses room of the House of Lords. A report has been published and all that need be said here is that full agreement was reached on all points to the end that co-ordinated work between the nations concerned will continue on the three species of locust that are of economic importance in Africa. The second was an Empire Cotton Conference convened by the Empire Cotton Growing Corporation; this was an unqualified success that brought research officers together and enabled problems of mutual interest to be discussed in the best possible way. The third was an Education Conference convened by the Agricultural Adviser to the Colonial Office for the purpose of discussing certain agricultural educational problems of Uganda; this was most useful and the results will be built into our local policy.

Conference at Amani.

11. A conference on Co-ordination of Agricultural Research and Plant Protection was held at Amani in February, 1934. As a printed report has been issued there is no point in my making more than a brief reference to it. Under the able chairmanship of the Director of Amani the agenda was dealt with in a most satisfactory way and definite progress was made toward further co-ordinating agricultural research activities in the three territories concerned. Final agreement was reached regarding the publication of an East African Agricultural Journal and I expect the first number will be available before this report is printed.

12. During the year six Members of Parliament, delegates of the Empire Parliamentary Association, paid a visit to the Protectorate, and during their stay they visited the Agricultural Laboratories, Kampala, and Bukalasa Experiment Station. They also saw something of agricultural conditions in a number of the more important areas.

Mr. K. P. S. Menon, an officer of the Indian Civil Service, paid a short visit to Uganda in September in connection with his enquiries into the effect, on Indian interests, of Native Produce Marketing Legislation.

13. The very valuable assistance given by the British Cotton Growing Association, the Empire Cotton Growing Corporation, the Royal Botanic Gardens, Kew, and the Imperial Institute is gratefully acknowledged. I wish, also, to record my appreciation of the very valuable assistance afforded by members of the various Boards and Committees whose advice has, at all times, been most helpful.

14. Once again it is a pleasure to record the wholehearted co-operation and support given at all times by the Provincial Administration, and by the Education and Veterinary Departments.

I wish to endorse the remarks made by the Senior Agricultural Officer, Western Division, regarding the helpful attitude and desire to co-operate which has been shown by the Buganda Native Government throughout the year.

15. In conclusion, I wish to express my appreciation of the loyal services rendered by all members of the Department during the year.

J. D. TOTHILL,
Director of Agriculture.

ANNUAL REPORT ON AGRICULTURAL WORK IN THE EASTERN DIVISION, 1934.

ORGANISATION.

The policy of partial decentralisation was put into effect in January when the writer, who had spent the previous year in head office, resumed the duties of Senior Agricultural Officer. His headquarters were transferred from Serere to Jinja, and the Agricultural Officers working in Lango, Teso, Bugwere and Budama, Bugishu, and Busoga now report direct to Jinja.

The reorganisation has resulted in the reduction of the field staff by one Agricultural Officer, educational duties at Serere now being combined with agricultural work in Teso district.

As regards the Serere Experiment Station the programme of work, which is decided on in consultation with the Senior Botanist, and estimates and proposals involving new expenditure, are the responsibility of the Senior Agricultural Officer, while the officer in executive charge is the Assistant Botanist stationed at Serere.

The reorganisation has been successful. Jinja being in telephone communication with Entebbe it has been possible to make proposals and receive directions with much greater expedition than formerly. These arrangements have also facilitated contact with the Provincial Administration in all agricultural matters, and particularly in work with the Bugishu Coffee Scheme.

METEOROLOGY.

The following table gives comparative rainfall statistics for 1934:—

District.	Recording Station.	1934 Rainfall Inches.	Average Rainfall Inches.	Difference from Average Inches.
Lango	Ngetta	56·44	55·57	+ 0·87
	Aduku	46·79	...	...
Teso	Serere	46·67	54·13	− 7·46
	Simsa	54·03	56·52	− 2·49
	Katakwe	36·73	48·16	−11·43
Bugwere	Mbale	40·45	43·55	− 3·10
Budama	Tororo	61·51	61·90	− 0·39
	Mulanda	54·57	...	...
Bugishu	Bubulu	38·96	40·80	− 1·84
	Bugusege ...	62·70	56·54	+ 6·16
Busoga	Jinja	39·51	45·60	− 6·09
	Iganga	47·87	53·69	− 5·82
	Bugaya	44·51	...	...

The dry season was a severe one and unusually prolonged. The total rainfall in all the cotton growing districts except part of North Lango and part of Budama was below normal. Although a dry period coincided with and therefore assisted the harvesting of the grain crops, the weather was in general very unfavourable. Rains were unevenly spaced, there was another dry period in September, but December rainfall, when its value was doubtful, was above the average.

COTTON.

A. Marketing of the 1933-34 Cotton Crop.

Zones.—The effect of new legislation was to create in this Division nine zones for the purposes of cotton marketing:—

The Gulu Zone.
The Chua Zone.
The North Lango Zone.
The South Lango Zone.
The North Teso Zone.
The South Teso Zone.
The Bugwere—North Bugishu Zone.
The Budama—Central Bugishu—South Bugishu Zone.
The Busoga Zone.

Border Ginneries.—The zoning legislation prohibited the movement of raw cotton except by head load or canoe, from one zone to another. All cotton had to be marketed, with these exceptions, in the zone in which it was grown. This would have led to hardship, for certain ginneries are situated near the borders of zones and depend for their supplies on cotton grown on each side of the border. The owners of Paranga, Ekwera, Masindi Port, Jaber, Ladoto, and Tiriri ginneries were therefore given permission to collect cotton by lorry along a limited distance of road in the adjacent zone.

Ginning Pools.—The creation of zones enabled the ginners to form associations within zones (or as in the case of Lango an association embracing two zones) which were known as "ginning pools." In these associations the members agreed to share the cotton, generally on the basis of one share per ginnery, not by transfer of cotton from one member to another but by making cash payments into the pool for any cotton bought in excess of the agreed share.

Lorries.—Having associated themselves on these terms and thus done away with competition for actual cotton the ginners had the opportunity of restricting the use of lorries. The practice of maintaining fleets of lorries for the purpose of carrying natives and their cotton has been a very wasteful one in the past. Unfortunately the pools were not formed until the last moment before the opening of the marketing season and although some agreements were made to restrict lorries to a precise number per ginnery the number of lorries licensed to carry cotton did not in all cases correspond.

Grade.—With the elimination of most of the middlemen and the absence of competition to get cotton, the ginners were able to refuse low grade cotton without fear of it being sold to a competitor. Aided by a long dry season nearly free from stainers, and by the efforts of chiefs to see that cotton was properly picked over, the grade of cotton in the northern parts of the division was if anything better than that in Busoga, and the grade everywhere was the best for many years.

Prices.—The buying season opened on January 29th when the nominal lint price in Jinja was 45¾ cents per lb. A.R. Busoga. The prices offered for seed cotton ranged from Shs. 9/50 per 100 lbs. in Busoga to Shs. 8 in Lango. A few days later the lint market rose to 47 cents and fluctuated between that figure and 49¼ cents for the remainder of the season. Prices toward the end of the season were at the higher level.

The following table shows the trend of prices in the different zones:—

Zone.	Seed Cotton Price per 100 lbs. in Shs. and cents.		Lint prices quoted in Jinja in cents per lb.	
	February 1st.	April 1st.	February 1st.	April 1st.
Busoga	9 50	10 00	47	49
Budama, S. Bugishu ...	9 00	10 00	46½	48½
Bugwere, N. Bugishu ...	9 00	10 00	46½	48½
North Teso	9 00	9 50	45½	
South Teso	9 00	9 50	45	
North Lango	8 50	9 00	43½	47¾
South Lango	8 50	9 00	43½	

The high grade was well maintained throughout the season. The small proportion of stained cotton sold at prices between Shs. 3 and Shs. 5 per 100 lbs.

Marketing closed on April 14th except in Busoga where the final date was April 21st.

Production.—A new high figure of cotton production for this division was reached, namely 91,969 tons or approximately 154,508 bales.

Production by districts and the previous season's figures for comparison are tabulated below:—

District.	Acreage.		Sales in tons.		Yield per acre in lbs.	
	1932—1933.	1933—1934.	1932—1933.	1933—1934.	1932—1933.	1933—1934.
Busoga	221,271	225,048	38,633	39,305	391·1	391·2
Budama	64,300	68,082	9,068	8,859	315·9	291·5
Bugwere	123,530	124,480	13,211	13,903	240·1	250·2
Bugishu	48,856	45,330	4,370	3,200	201·4	158·1
Teso	134,481	112,222	12,705	11,286	211·6	225·3
Lango	83,181	78,736	12,520	11,161	337·1	317·5
Chua	18,000	18,000	1,882	1,716	234·2	213·5
Gulu (Acholi)... ...	16,400	16,000	2,539	2,515	346·8	352·1
TOTALS:—	...	687,898	...	91,945	...	...

In the above tables the acreage figures are those calculated from the results of plot measurement, with the exception of the Gulu and Chua figures, which are estimates. Gulu statistics are now divided into those for the Madi and Acholi sections.

Pink Bollworm.—This pest was discovered in Lango district at Aboki and Ngetta, and as far south as Chegere. It continued to be reported in Gulu but so far it has not been found in Chua district.

B. The 1934-35 Cotton Crop.

Cotton Seed Distribution.

(*a*) *Replacement.*—Owing to the discovery of the Pink Bollworm in Lango all seed in the North Lango Zone was destroyed by burning. The seed which would have been used for planting was replaced by 318 tons of seed supplied from Busoga, variety N. 17.

Seed for planting in Gulu district was supplied from the Teso segregated area, the variety being S.G. 29, and the amount 135 tons.

Chua district had seed from its own ginneries.

(*b*) *Variety S.G. 29.*—The zoning legislation, which combined South Bugishu and Budama for marketing purposes caused two varieties of cotton to be mixed—S.G. 29 which had been sent to Bugishu in the previous season and the local cotton in Budama.

It was in any case the intention to issue S.G. 29 in Budama and in view of the mixing of varieties in South Bugishu that area was given seed from the segregated area for the second time. 771 tons of seed were required.

(*c*) *Effect of New Legislation.*—In the replacement of cotton seed for planting in Pink Bollworm areas and in the introduction of the new variety to Budama and Bugishu the provisions of the Cotton Amendment Ordinance, 1934, were brought into use. The fresh seed was delivered at the station or port nearest to the ginnery from which seed is normally distributed. The ginner transported the seed from station to ginnery on his returning lorries for which Government paid 25 cents per ton mile. A considerable saving was effected in this way.

(*d*) *Ordinary Distribution.*—In districts other than those already mentioned seed requisitions were made on the basis of 15 lbs. per acre plus 50 per cent. in reserve. At Siroko ginnery in the plains of North Bugishu germination was very poor and the seed had to be replaced from a ginnery in Bugwere. Elsewhere seed distribution proceeded on normal lines.

Cotton Planting, 1934.

This was a singularly unfavourable season for cotton planting. Owing to the severity and length of the dry season the planting of food crops was much delayed and in consequence that part of the cotton crop which follows grain was later than usual. The dry weather also delayed the clearing of new land for early cotton. Actually the final total acreage for the Division exceeded the previous record.

Monthly Plantings in Acreage per District, 1934.

District.	April.	May.	June.	July.	August.	September.	Total 1934.	Total 1933.
Busoga	...	577	14,736	64,191	129,107	25,385	233,996	225,048
Budama	...	...	17,311	26,827	22,660	5,356	72,154	68,082
Bugwere	...	1,068	25,349	47,137	44,017	11,670	129,241	124,480
Bugishu	...	...	5,370	23,459	14,677	2,073	45,579	45,330
Teso	964	10,754	28,775	47,991	21,753	2,091	112,328	112,222
Lango	...	50	4,704	39,957	28,173	5,556	78,440	78,736
Chua	...	...	1,920	16,253	2,934	200	21,307	18,000
Gulu (Acholi) ...	...	...	4,000	10,000	2,500	...	16,500	16,000
	964	12,249	102,165	275,815	265,821	52,331	709,545	687,898
% of total ...	...	1·8%	14·4%	38·9%	37·5%	7·4%	...	...

In Budama the cotton crop was planted earlier than in the previous year. Elsewhere there was a slightly higher percentage of late cotton.

Monthly Cotton Planting Expressed as Percentage of the Total Acreage.

District.	April.	May.	June.	July.	August.	September.
Busoga	...	0·3	6·3	27·4	55·2	10·8
Budama	...	...	24·0	37·0	32·0	7·0
Bugishu	...	...	11·8	51·5	32·2	4·5
Bugwere	...	1·0	20·0	36·0	34·0	9·0
Teso	0·9	9·6	25·6	42·7	19·3	1·9
Lango	...	0·1	6·0	50·9	35·9	7·1
Chua	...	...	9·0	76·3	13·8	0·9
Gulu (Acholi)	...	...	24·2	60·6	15·2	...

Condition of the 1934-35 Crop.—Weather conditions were not favourable. Owing to dry conditions in the south the earlier cotton did not develop vigorously. In Teso and Bugwere the drought at the end of September and in October stunted the growth of the later crop and it is feared that even though the rainfall was above the average in December it was too late to bring the yield up to average. The lateness of planting in Lango and Busoga are also against the prospect of a high yield.

The Cotton Traverse.—This was carried out as usual by the Agricultural Officers, who travelling by motor car or lorry traversed their districts from N.E.—S.W. and S.E.—N.W. for the purpose of obtaining statistical information for use in forecasting the probable crop.

Spacing.—The results of previous traverses have shown that the spacing of cotton in the field is very far from the optimum as determined in experiments. A propaganda campaign was undertaken to induce the natives to plant more closely and although there is still plenty of room for improvement it is gratifying to see in the latest calculations from the 1934 traverse that the campaign is having its effect.

Sowing Date.—While early planting is to be encouraged and in general May and June are the best months, in Usuku County of Teso District experiments have shown an overwhelming superiority of April plots over all others. It is now the policy to encourage cotton planting in April in that area.

COFFEE.

A. Bugishu District.

(*a*) The Bugishu Coffee Scheme and the Bugishu Coffee Scheme Board.

The organisation known as the Bugishu Coffee Scheme is licensed, under the Native Produce Marketing Ordinance, to buy coffee from the native producers in the "declared" areas, namely South Bugishu and a small area of the North Bugishu hills. The coffee is as far as possible bought in the cherry, afterwards being pulped, at the pulping stations owned by the Scheme.

In addition it buys cherry coffee in Central Bugishu and the remaining part of North Bugishu in both of which areas coffee traders also buy coffee, but in the form of native prepared parchment, from the producers.

During 1934 the Bugishu Coffee Scheme was in possession of the following works:—

South Bugishu Declared Area	Seven Pulping Stations.
North Bugishu Declared Area	Four Pulping Stations.
Central and North Bugishu Open Area ...	Five Pulping Stations.
Bubulu	Coffee Milling Factory.
	Drying Barn
	Barbacue.
Nampanga, North Bugishu	Sun Drying Station.

The Bugishu Coffee Scheme Board is an advisory board. The Provincial Commissioner is in control of the Bugishu Coffee Scheme, its finances, and the staff employed by it—the Manager, his Assistant, an Asiatic Clerk, and the numerous native employees. The Board was altered in constitution by the substitution in membership of the Senior Agricultural Officer for the Deputy Director of Agriculture. The Chairman is, as before, the District Commissioner, Bugishu, with the Agricultural Officer as member and secretary. There are also two native members.

The Bugishu Coffee Scheme Board held six meetings during the year. Its advice was given upon development, marketing policy, and future expansion of the Scheme, and upon a variety of smaller matters:—

Development.—A further loan of £1,729 was approved by Government for expenditure on capital works, the main items being a sun drying station at Nampanga in North Bugishu consisting of six concrete barbacues of 60 ft. by 35 ft. dimensions, with sheds and store: a second concrete barbacue at the Bubulu factory and additional trays and sheds: two new pulping stations—at Nusu and Bukigai. The furnace and floor of the drying barn at Bubulu were repaired and the two 5 h.p. engines were sold and replaced by a 1½ h.p. engine for driving the fan.

Marketing Policy.—The Board recommended that the South Bugishu closed area with its factory at Bubulu should be treated as a separate entity. The crop from the closed area in the hills of North Bugishu, and in the competitive area, to be dried at the sun drying station at Nampanga for export as parchment.

The Board gave its advice on the fixing of the price to be paid the native for his coffee, having regard to the estimate received monthly by cable from two firms in London as to the sale price which B.C.S. coffee might be expected to realise on arrival in London, the cost of collection, drying, factory treatment and freight, the interest charges on capital, and the proposal to pay off the new loan for capital works 1934, referred to in the preceding paragraph, out of revenue.

In view of the rising production of Bugishu coffee it will be important to establish regular channels of sale. With this end in view the Board advised that the bulk of the crop should be entrusted to one firm having world-wide connections and it looks forward to the time when such an agency will be able to place forward contracts and so eliminate the risks of buying coffee from natives before the selling price is known.

Future Expansion.—The Board has been engaged in considering the future development of the Bugishu Coffee Scheme. For this purpose it has been necessary to have an estimate of the potential production of coffee for each gombolola (administrative unit) in the district, estimated costs of transport of wet parchment from pulpers to drying grounds and various hypothetical locations of one, two, or three factories, the estimated requirements in machinery and power for such factories and the staff which will be required for the working of the full scheme. The bulk of the work entailed in the preparation of these reports has fallen on Mr. A. J. Kerr as secretary to the Board and Agricultural Officer, Bugishu.

(*b*) Marketing of the 1933-34 Crop.

The total crop for the season July 1st, 1933, to June 30th, 1934, amounted to 985 tons parchment as against 734 tons for the previous season.

Of this amount the purchases were made as follows:—

By the Bugishu Coffee Scheme (as cherry)	478 tons.
By the Bugishu Coffee Scheme (as parchment)	93 ,,
By local buyers	414 ,,
	985 tons.

The financial results of the season's working were satisfactory. Conditions in the home coffee trade caused delay in disposing of the crop, but all coffee has now been sold. When the books are finally closed it is expected that after paying off the deficit from the two previous seasons there will be a profit of about £1,000 to be devoted to capital redemption.

(*c*) The 1934—1935 Coffee Crop.

Small quantities of cherry started ripening at the end of July but instead of the usual steady increase from this date, the cherry from the early flowerings was delayed in its ripening by abnormal weather. In consequence the picking season was compressed into a short space of time. This caused great difficulty at the pulping stations which could not deal with the crop and at the beginning of November there was such an accumulation of wet parchment that it was necessary to stop buying cherry in South Bugishu for a fortnight in order to deal with what had already been bought. During this fortnight cherry had to be pulped and prepared by the natives themselves. The B.C.S. purchases of parchment chiefly represent the coffee prepared by natives in the declared areas at that time.

Prices.—The Bugishu Coffee Scheme price was Sh. 1/10 per *debe* (4 gallon tin) for cherry and 20 cents per lb. parchment throughout the season and at all buying stations in the district.

Sales.—At the end of the year 1,150 tons (expressed as parchment) had been sold, of which the Bugishu Coffee Scheme had bought 55%. Marketing is still proceeding.

(*d*) Distribution of Coffee Plants.

The seedlings transplanted from central nurseries into Lukiko nurseries in 1933 were distributed to natives in April and May 1934 after being hardened off by gradual removal of shade.

Suitable recipients were selected, prior to distribution, by chiefs in conjunction with instructors, and shambas prepared accordingly. Natives without trees received 100 trees free of charge, other good cultivators 50 each, with a payment of 10 cents per tree in excess to encourage the peasant cultivator rather than the farmer using paid labour.

A summary of plants distributed to natives in 1934 is given as follows:—

Saza.	*No. of Gombololas.*	*No. of Recipients.*	*No. of Trees.*
South Bugishu ...	10 ...	3,111 ...	153,837
Central Bugishu ...	6 ...	2,011 ...	100,450
North Bugishu ...	7 ...	5,221 ...	263,382
Sebei	3 ...	1,234 ...	66,750
Total ...	26 ...	11,577 ...	584,419

Allowing 1,200 trees per acre, the acreage represented is 487, bringing the total acreage to date up to 4,013·29.

Central Nurseries.—Prior to distribution of seedlings to natives, the four central nurseries at Bubulu, Bunkoko, Makuyu and Buginyanya had been planted up with seed from Bugusege plantation. Seedlings in the cotyledon stage were transplanted into the Lukiko nurseries from May onwards, a summary of seedlings actually transplanted being as follows:—

Nursery.	*Number of Seedlings transplanted into Lukiko Nurseries.*
Bubulu	617,038
Bunkoko	220,300
Makuyu	363,700
Buginyanya	201,200
Total	1,402,238

The young plants in the nurseries are in very good condition and the percentage for distribution to natives should be greater than in previous years.

Only a few cases of illicit planting of seed-beds were reported during the year.

(*e*) Pests and Diseases.

Antestia.—Antestia damage has been in evidence to about the same extent as in previous years, its incidence on some of the larger shambas, such as in the Bulucheke area and on Bugusege Plantation, having been slightly greater, if anything. An Antestia survey has been arranged for.

Stem Borers.—The practice of systematic stumping and burning of infested trees was continued with success in preventing the spread of borers. The procedure has caused natives to watch for the early stages, when probing is effective. A number of trees was stumped in Bupoto and the Bulucheke areas, attacked by *Bixadus sierricola*, and a few trees, in North Bugishu attacked by Apate. Two or three trees at Bugusege Plantation were damaged slightly by the latter.

Thrips.—During the dry weather, there was a slight incidence of thrips, but no damage resulted.

Leaf-miner.—Is present to a slight extent in North Bugishu.

Mealy-bug.—There were a few isolated cases of mealy-bug in the North Bugishu hills.

Berry Borer.—Damage from Stephanoderes was comparatively little throughout the year, though present throughout the low level coffee areas. The "fly-crop" causes a carry over of this pest from year to year in Bugishu.

Hemileia vastatrix.—Below elevations of about 5,000 feet, there was a more severe attack of *Hemileia* than usual, after the heavy crop, followed by a heavy leaf-fall and, in a number of cases, "dieback."

Coffee Berry Disease.—Though reported on the Kenya side of Elgon, has not been in evidence in Bugishu.

"Dieback."—Following the heavy crop and leaf-fall previously mentioned, there has been considerable "dieback" in the Budadiri and Central Bugishu areas, in severity equivalent to that of 1930. The old single stem trees are now in a very weakened state.

B. Robusta Coffee in Busoga.

Three nurseries were established in 1933 for the purpose of providing Robusta coffee plants for distribution in the elephant grass country of Busoga. The first distribution took place during 1934.

Nursery.	*No. of Plants Issued.*
Wanyange	14,200
Iganga	2,500
Kamuli	2,800
Total	19,500

There seems to be a real demand for trees around Wanyange but the response at Iganga and Kamuli was disappointing. However, other nurseries have been established at Bulopa and Nasuti, and it is expected that after a time the coffee planting movement will be taken up with more enthusiasm.

GROUNDNUTS.

In the districts in which it is hoped that the groundnut trade will develop into one of importance, the season was a favourable one for this crop. There was little rosette disease and the yield was at least average. On the other hand during the later part of the year during which the crop was harvested, supplies of fresh food became restricted owing to dry weather and there can be no doubt that this induced caution on the part of potential sellers where food shortage threatened to be serious.

The acreage in the two chief groundnut districts was as shown below:—

	1934.	*1933.*
Teso	46,012	28,911
Bugwere	6,475	5,635
	52,487 acres.	34,546 acres.

Marketing in Teso.—Whereas in the previous year an exclusive licence was granted to Messrs. Baumann and Co. to purchase groundnuts in all the districts of this Division, for 1934 it was confined to Teso District.

Under the conditions of the licence the price was fixed by the Director of Agriculture partly on the basis of the Dar es Salaam and partly on the basis of the London market but with a minimum price of 3½ cents per lb. for shelled nuts. The marketing was carried out at gombolola headquarters. The price paid varied between 4 and 5 cents. per lb. for shelled nuts. Marketing opened on October 24th and finished at the end of the year.

The following quantities were sold:—

County.	*Tons Shelled Nuts.*	*Tons Unshelled Nuts*
Amuria	108½	62
Usuku	182	18
Ngora	63	—
Kumi	31½	2½
Soroti	4	1½
Total ...	389 tons	84 tons

The shelled nuts were exported to Europe, while the smaller quantity of unshelled nuts was disposed of locally.

Marketing in Bugwere.—Centres for groundnut marketing were gazetted under the Native Produce Marketing Ordinance, and District Commissioner's licences were taken out as shown below:—

Bukedea, 10 licences; Magodes, 6 licences; Namunsi, 10 licences; Budaka, 1 licence.

Most of the licencees were small traders of the old cotton middleman type. The purchase price was 5 cents per lb. for shelled and 3 cents per lb. for unshelled nuts. Total purchases were 142 tons.

SIM-SIM.

The chief Sim-sim districts are Lango and Teso and the acreage planted in each was as follows:—

	1934.	*1933.*
Lango	44,905	53,332
Teso	23,378	27,571

Conditions were unfavourable to this crop in Lango owing to late planting. However, the Teso crop, particularly in Serere and Kasilo Counties, yielded well.

Marketing was carried out under the Native Produce Marketing Ordinance with a limited number of market centres at which only holders of licences issued by the District Commissioner could buy. Most of the market centres were cotton markets or ginneries except at Kaberamaido where licensees were allowed to put up mud and wattle stores at the place marked out for the purpose.

In Teso 25 licences were taken out and in Lango 21. About a quarter of this number were cotton firms, the rest being small traders.

The price paid was 4½ to 5 cents per lb. and the amount sold:—

Teso	350 tons
Lango	469 ,,
Total	819 tons

FOOD CROPS.

(*a*) *Supplies.*—At the beginning of the year famine conditions appeared in Bukedea County of Bugwere District and in the neighbouring area of Teso around Ongino. The famine plots of cassava were first used up and then it became necessary to issue grain from the famine stores until the new crop came to harvest.

(*b*) *Grain Crops.*—With the gradual and apparently final departure of the swarms of locusts which have been a menace to the grain crops during the past few seasons the native cultivator has increased his plantings. The acreage of bulo (*Eleusine*) was considerably greater than for some years and generally speaking the harvest was a good one.

(*c*) *Root Crops.*—Coincident with the increase in grain the cultivation of sweet potatoes tended to decline. The yield of the late planted crop was not up to average.

The acreage of the cassava crop is an indication of the food position. Thus in Lango it has decreased but in Teso and Bukedea the acreage has gone up, no doubt in order to meet deficiencies in other foods.

(*d*) *Oil Seeds.*—Sim-sim and groundnut yields in districts not previously referred to, were satisfactory.

(*e*) *Plantains.*—In Busoga and Bugishu the plantain crop was in poor condition after the long dry season but it recovered with the rains. At no time did the food position in those districts become acute.

(*f*) *Prospects.*—Unfortunately the same area in which famine conditions occurred experienced long periods of dry weather which induced poor yields of their 1934 food crops. The cassava plots are all new ones and they cannot be expected to yield a large crop for some time. It is feared that parts of Teso and Bugwere will be short of food before the 1935 crops are ready for harvesting, unless the rains come exceptionally early.

PLOUGHING.

The number of ploughs in possession of native cultivators continues to increase:—

District.	Total Ploughs. 1934.	Total Ploughs. 1933.	Increase.
Busoga	148	136	12
Budama	48	43	5
Bugwere	4,385	4,145	240
Bugishu	47	40	7
Teso	11,615	9,913	1,702
Lango	519	365	154
TOTALS	16,762	14,642	2,120

(*a*) *In Busoga* the figures unfortunately include a number of ploughs which are rarely used and there has been little more ploughing except possibly among Teso people living in the northern parts.

(*b*) *Lango.*—A useful increase is recorded. Six native instructors were engaged on the work of training men and oxen during the year. 239 men received some training in ploughing, and 500 oxen were broken in to work during the year. Progress is being made chiefly in Kalaki, Koli, and Moroto Counties. Mr. McEwen, Agricultural Officer, writes: "As a result of considerable reduction in prices effected by the suppliers recently, *e.g.*, from Shs. 120 to Shs. 70 in the case of Ransome E.C.A. plough, and judging by the increased number of enquiries received from natives regarding ploughs, continued progress in ploughing may be looked forward to, with confidence".

(*c*) *Teso.*—The figures, showing an increase of 1,702 ploughs during the year, are satisfactory, but the condition of the ploughed plots in this district gives cause for anxiety. The advance in new plough owners has been too fast for instruction to be given to them all. A new native instructor has been engaged to help in the work of training men and cattle, and five county ploughing competitions have been held. It is intended to continue work on these lines and to conduct propaganda for better cultivation at the same time.

Much of the trade in ploughs in Teso is now done, not for cash, but by the barter of cattle. There are two ploughs similar to the Ransome E.C.A. plough on the market, one German and one from Czecho-Slovakia, both selling at a lower price. The biggest proportion of these sold during the year were of German origin.

PESTS AND DISEASES.

(*a*) *Locusts.*—A few small swarms of the Hairy Chested Locust were reported, and a few cases of egg laying occurred, early in the year. Little or no damage was done. During the second half of the year this Division was free from locusts.

(*b*) *Cotton Pests.*—Angular leaf spot and Blackarm were present in normal proportions early in the season but Blackarm increased in certain areas such as Usuku and Bukedea so as to cause damage. Helopeltis caused little damage this year. Jassid was also present probably in larger numbers than usual. The major pest was, however, Lygus particularly on the July cotton which at one stage was severely damaged as to its leaves and the shedding of the young buds and bolls. The later cotton was less affected but there is no doubt that the pest caused a large reduction in crop throughout this area.

The Pink Bollworm was discovered at several places in North Lango early in the year. Agricultural Officers have now carried out the collection of green boll material for the Pink Bollworm survey in all districts.

(*c*) *Cosmopolites sordidus.*—The banana borer has done considerable damage to plantain gardens in the neighbourhood of Kaliro in Busoga and it has been observed near Kamuli.

(*d*) *Cassava Mosaic Disease.*—Elsewhere in this report it has been stated that the famine reserve plots of cassava have been used up and have been replanted in certain areas of Teso district. The Agricultural Officer, Mr. M. G. de Courcy-Ireland's notes on the condition of the cassava crop are of interest: "It has been noticed that during the past two years especially, there has been a great increase in the proportion of roots infected. In many areas the disease is almost 100% and it is nearly impossible to obtain healthy cuttings. Every endeavour is being made to collect healthy stock and where it is possible to obtain clean cuttings, half acre plots have been established in each Atongele. These plots are being rogued of any diseased plants and it is hoped to obtain sufficient cuttings in a short time to plant clean material in all the plots of the district".

On enquiries being made in other districts, with a view to supplying healthy cuttings, it has been found that such material is rare. It is hoped, however, to obtain enough for the planting of a stock plot in Teso early in 1935, either from South Lango or from Buganda.

GENERAL NOTES.

Other activities of the agricultural staff of this division are briefly noted below:—

(*a*) *Agricultural Survey.*—While crop statistics and returns of livestock give some information as to the condition of agriculture in a district, they do not convey a true idea of the agricultural economics of the family. In order to understand the requirements in land, food supply, and money crops of such a family, more detailed observation is necessary. The first of such studies has been made by Mr. T. R. Hayes, Agricultural Officer, who conducted an agricultural survey in one of the mutallas in the Kachumbala Gombolola of Bugwere. This is a district where grain is the staple food. Another survey has since been done in Busoga among plantain-eating people.

(*b*) *Lint Samples Committee.*—The writer acted as Chairman of a Committee consisting of two members of the Uganda Cotton Association, for the making up of lint sample boxes representing cotton from all parts of the country.

(*c*) *Education.*—Seven pupils who have completed the two years' course on the Small-holdings at Serere have left for their own homes. They are to receive assistance from the Teso lukiko to help them towards setting up on their own.

An agricultural examination of the Buwalasi Normal School was conducted by the Agricultural Officer, Mbale. School gardens have been visited by all Agricultural Officers when occasion offered on safari. Several of the native staff of this Department from each district attended the course of instruction which was held for them at Serere.

C. E. J. BIGGS,

Senior Agricultural Officer, Eastern Division.

ANNUAL REPORT OF THE SENIOR AGRICULTURAL OFFICER, WESTERN DIVISION.

STAFF.

The Senior Agricultural Officer, with headquarters in Kampala, now supervises the work of all the field officers of the Department who are stationed in the area west of the Nile. During the year under review the staff was increased by the addition of two Agricultural Officers, one for the Masaka District from March, and one for the Kigezi District from August. In the Mengo District the Agricultural Officer (Education), stationed at Bukalasa, was able to assist in field work in the northern counties during the time he could spare from his other duties. In November an Agricultural Officer was posted temporarily to Kampala to assist in establishing the new coffee nurseries in South Mengo. At the end of the year, therefore, there were officers stationed in all Districts with the exception of Entebbe and Mubende. It is hoped that the present staff will be maintained and that it will be possible in 1935 to appoint additional officers for the Entebbe and Mubende Districts.

The Muganda Agricultural Adviser to the Buganda Native Government, who was appointed in 1933, was engaged on general work during the year. In order that he may gain experience in the field, arrangements have been made for him to be posted to the Entebbe District in 1935 to carry out some of the duties of an Agricultural Officer for a complete year.

METEOROLOGICAL.

In general the weather during 1934, was only moderately suitable for all crops. The dry season continued later than usual and the planting of food crops was delayed. The wet weather which became general in April prevailed for a shorter period than usual, being followed everywhere, except in Bunyoro, by an abnormally long dry spell from early June till the middle of August. Fortunately the last quarter of the year was unusually wet, the rains continuing until the end of December. The weather conditions early in the year were, therefore, too dry for the spring sown food crops and for the early planted cotton. There was a scarcity of food in many parts and it was also feared at one period that only a small acreage of cotton could be planted. However, the wet weather later in the year saved the situation, and at the end of the year the food position was fairly satisfactory, the acreage under cotton had been maintained and increased, and the condition of the crop was only slightly below average. In the tobacco growing area in Bunyoro the weather during June and July was unusually moist and the quality of the ripening tobacco leaf deteriorated slightly in consequence.

COTTON.

COTTON ACREAGES AND SALES.

DISTRICT.	*1932-33.*		*1933-34.*		*1934-35.*
	Acres.	*Tons.*	*Acres.*	*Tons.*	*Acres.*
BUGANDA PROVINCE.—					
Mengo	157,668	36,695	164,022	30,437	227,223
Entebbe	86,924	16,849	106,037	16,016	87,395
Masaka	33,828	9,493	33,914	10,327	50,756
Mubeende	39,891	7,887	46,905	8,843	59,857
	318,311	70,924	350,878	65,623	425,231
NORTHERN PROVINCE.—					
Bunyoro	25,000	3,056	28,986	2,740	28,000
West Nile	4,200	405	5,547	543	7,137
Madi Area	5,900	763	5,033	814	5,300
	35,100	4,224	39,566	4,097	40,437
WESTERN PROVINCE.—					
Toro	5,505	277	12,160	628	10,588
TOTAL ...	358,916	75,425	402,604	70,348	476,256

NOTE:—The acreages for Buganda for the 1934-35 season were computed on a new basis.

Cotton Season, 1933-34.

1933-34 Crop.—The crop harvested this season was generally satisfactory. Although in comparison with the previous season there was, over the whole area, an increase in acreage of over 43,000 acres and a decrease in tonnage of some 5,000 tons, the yields were nevertheless better than anticipated in view of the adverse weather conditions in 1933, when planting was delayed by the dry spell in June and July, and when later in the year Blackarm caused some damage to the crop. The grade was very good and it was not necessary to take legal action against buyers and sellers. Prices were higher by from Shs. 1 to Shs. 2 over the previous season. The average prices paid throughout the season were as follows:—

	"Good" per 100 lbs. Shs. cts.	*"Stained" per 100 lbs.* Shs. cts.
Buganda Province.		
Mengo	11 87	4 89
Entebbe	12 76	5 23
Masaka	11 48	5 85
Mubende	10 18	2 68
Northern Province.		
Bunyoro	9 11	3 28
West Nile	7 85	2 43
Madi Area	7 71	2 70
Western Province.		
Toro	8 66	2 00

Cotton Legislation.

Under the Cotton (Amendment No. 2) Ordinance, 1933—which gave Government the power to establish Zones within which raw cotton can move freely, but between which, movement except by head-loads or canoe-loads is prohibited—this area was divided into the following Zones before the marketing of the 1933-34 crop:—

(*a*) Buganda—Toro Zone.
(*b*) Bunyoro Zone.
(*c*) West Nile—Madi Zone.

It is yet too early to comment on the effect of this legislation. The most obvious benefit to the industry is that it ensures uniformity of growths and quality, as all raw cotton must be ginned within the quality zone. It also limits the areas of competition to a narrower field which should result in lower overheads for the buyer and a correspondingly higher economic price for the grower. It can lead to the complete re-organisation of the marketing facilities by re-distribution of markets and ginneries with the resultant economic advantages. Such changes, however, can be effected only by agreement amongst the ginners themselves. If such agreement is reached it implies the pooling of resources and the creation of a complete buying monopoly, the interests of the growers being safeguarded by the power of Government to fix minimum prices when necessary. The advantages are many, but it is necessary to sound a note of warning. During the season under review a buying pool was formed in one closed area which later became a zone, and it became necessary for Government to warn the pool that the prices were too low. Economic prices were paid immediately after the warning, but if the system is to work fairly and smoothly warnings of this kind should not be necessary.

Towards the end of the year the Buganda—Toro Zone was sub-divided into three zones, namely:—

(1) The Mengo—Entebbe Zone.
(2) The Masaka Zone.
(3) The Mubende—Toro Zone.

Legislation was also introduced to minimise the over packing of cotton into gunny bags. This measure proved very effective, and it was found advisable at the end of the year to reduce the quantity permitted per bag from 90 lbs. to 80 lbs. of raw cotton and also to prohibit the use of sticks or other implements in packing the bags.

Pink Bollworm (*Platyedra gossypiella*).—At the end of 1933, this pest had been found to exist in the West Nile, Bunyoro, and Mubende Districts, and also in the Buruli County of Mengo District. In an attempt to reduce the rapidity of its spread and also to decrease its incidence, measures were taken to prohibit the movement of raw cotton out of these areas, and in all districts, with the exception of the West Nile, all seed produced locally was destroyed by burning or used as manure. At the end of 1934, the movement of raw cotton into or out of the Bugerere County in Mengo was also prohibited in the hope that a clean area might be maintained as long as possible between Buruli and Busoga.

Cotton Season, 1934-35.

SEED DISTRIBUTION.

In view of the incidence of Pink Bollworm in Bunyoro, Mubende, Toro, and Buruli, seed for planting in these areas was introduced from clean areas. For Bunyoro 218 tons of seed of the S.G. 29 strain was introduced from Teso, for Mubende and Toro 491 tons of seed was sent from Kampala, and Buruli was supplied with 50 tons seed from a clean area in Bulemezi. The total cost to Government in the purchase and transport of the seed was Shs. 34,180. In addition to the amounts of seed sent by Government for the Mubende, Toro and Buruli areas, the ginners from these areas, on their own accord, also purchased and transported considerable quantities of seed from the same sources in order to make doubly certain that there would be ample seed for all growers. It is a pleasant duty to acknowledge and record this kind act of unsolicited co-operation on the part of the ginners in these areas.

1934-35 Crop.—The main features of the planting season were (*a*) the prolonged dry period from May till August, and (*b*) the scarcity of immigrant labour in the Buganda Province. In all areas, with the exception of Bunyoro, where the weather was more suitable, the bulk of the cotton could not be planted at the usual time owing to the drought. In Buganda the position was more serious owing to the scarcity of immigrant labour who were prevented at the time from entering Uganda from the Congo and from Tanganyika. The Baganda, however, overcame this difficulty by working harder themselves, and by the end of September the acreages in all areas were equivalent to or greater than those in the previous season.

The condition of the crop at the end of the year is slightly below normal in all areas. The earlier plantings suffered from the drought and later during the prolonged wet period from August till the end of the year the plants became very woody and considerable shedding of buds and bolls occurred. The late plantings, on the other hand, were favoured by the wet weather and these should produce a fair crop if the weather is suitable in January and February, 1935. A late planted crop, however, does not usually yield as well as a crop planted before the end of July. The young bolls tend to open prematurely during the dry weather, or if the weather is too moist they become infected with boll rot. It is, therefore, most unlikely that the yield will be equal to normal.

In regard to the returns of acreages for the 1934-35 season given above, it is necessary to explain that the considerable increases in acreages for all districts in Buganda, excluding Entebbe, are due, in part, to the new method of computation employed during the year, and that the actual increase over the previous year is not necessarily as great as the figures show. The difficulty of computing acreages from returns of plots of varying shapes and sizes will be realised. There is no doubt, however, that in the past the acreages in the Mengo, Mubende and Masaka Districts were underestimated, and that in the previous season the acreage in the Entebbe District was overestimated. During the year under review it was possible with an increased native staff to make sample measurements in various areas. With more experience of the method employed the returns in future years should increase in accuracy. It is certain, however, that the actual acreage planted in 1934, was at least slightly greater than in 1933, in all districts in Buganda.

COFFEE.

The Coffee Grading Ordinance.

This Ordinance was in operation throughout the year, and it continued to effect an improvement on the grade of coffee exported. All native grown coffee, and all estate grown coffee not exported under the estate's own mark, must pass through a licensed coffee curing works for grading up to standard prior to export. There are five curing works in the Mengo District and two in the Masaka District. The quantities dealt with by these factories in 1934, were as follows:—

DR	Total.	Robusta.		Arabica.		Triage.
		F.A.Q.	U.G.	F.A.Q.	U.G.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Mengo	3,849	2,934	147	756	7	5
Masaka	1,585	1,144	34	390	9	8
TOTALS 1934 ...	5,434	4,078	181	1,146	16	13

The above figures relate mainly to native grown coffee, but would include estate grown coffee that had been traded locally or not exported directly under the estate's own mark.

The owners of three of the curing works do not deal in native grown coffee. The other owners rely mainly on their own purchases. During the year there was increased competition in the curing of dealers' coffee, and the curing charges were reduced to the exceptionally low level of Shs. 12/50 per ton. Complaints were received early in the year that the quality was not equal to the official grades, but after numerous visits to the curing works, combined with surprise inspection of consignments at railway stations and ports, the official grade was reached and maintained, and no further complaints were received.

Native Produce Marketing Ordinance.

During the year an exclusive licence was issued under this Ordinance for the purchase of coffee in the Bwamba County of Toro District. In addition, the districts of Ankole and Kigezi were declared "declared areas" in respect of coffee, and the marketing of the crop is organised on the basis of competitive buying under licences issued by the District Commissioners at declared market centres. There is no doubt that these measures will improve the quality of the crop for two reasons. Firstly, the buying of the crop at recognised markets will ensure that the coffee is stored properly. In these areas in the past the coffee was stored in buildings containing garlic and other high scented materials which tainted the coffee. Secondly, the easier facilities for inspection at centres will make it possible for more effective propaganda, and the rejection of the badly prepared produce. It will also be possible to limit the period of marketing which will encourage the growers to treat their coffee as soon as it is picked, and get it off their hands before it deteriorates in their houses.

The Ordinance has not yet been applied to the Buganda Province. There are, admittedly, a few objections against its application, but it is hoped that these can be overcome. At present the marketing of native coffee in Buganda is completely uncontrolled. The crop is sold in driblets to the local dukas, either as kiboko (dried cherry), or as hulled coffee. The dealer usually dries the coffee on bare ground prior to hulling it in the kinu (mortar used for grinding food) and it is stored in very unclean surroundings. Apart from the deterioration in quality which occurs in the hands of the dealer there is no distinction in price offered to the seller and, therefore, no incentive for the grower to improve his method of preparation. The growers' reply to any criticism is that he will get no higher price for any extra trouble he may be prepared to take. There will, therefore, be no improvement in quality until the marketing system is re-organised. An increasing number of Baganda realise the drawback of the present system, and many of them are considering the advisability of pooling their crops and exporting the bulked coffee themselves. They are even prepared to erect barbecues and stores, provided they are ensured of better prices for the properly treated coffee. The majority of growers realise that the kinu is unsuitable for hulling coffee. A native-made wooden huller is being more widely used and Indian dealers also are taking it up. This is a healthy sign and a step in the right direction, but price must bear some relation to quality. No rapid advance will be effected without controlled marketing at declared centres.

1934 Crop.

The crops harvested in 1934, were fairly normal. Prices in Kampala dropped during the year from 31 cents per lb. for hulled arabica, and 27 cents per lb. for hulled robusta, to 25 cents and 21 cents respectively. The reduced prices, however, did not influence the keenness of the natives to plant coffee. There was a steady increase in acreage, and in general the demand for plants was greater than the supply. This industry is growing rapidly in popularity and importance. In Buganda the natives consider this permanent crop as a source of revenue second to cotton, and in other areas the demand for plants indicates the considered need of a permanent crop which can be relied upon to provide a fairly regular income to supplement the farmer's other resources. The standard of cultivation is, however, very low, and I regret to say that hardly any improvement in coffee management was effected during the year. The main principles of farming appear to be forgotten in the case of a permanent crop. Very few efforts are made to maintain soil fertility and to prevent erosion, and simple methods of controlling insect pests appear to be ignored. This is a disappointing feature, but intensive and continuous propaganda may eventually bring home the realization of these important matters. A brief résumé of the position in each district is given below.

West Nile.—In view of the results obtained from the arabica coffee experimental plots planted in 1932, and from information obtained from some older plots planted in 1927, it was decided that it would be advisable to commence coffee cultivation in the Alur highlands in 1934. Approximately 100 natives expressed a desire to start planting in 1934. Each man prepared, under supervision, from ¼ to ½ acre as he desired, and planting was done in August. This is a new venture for these inhabitants, and progress will be slow, but it is satisfactory to note that a large number of new volunteers want to plant in 1935.

Toro.—The following acreages were planted by natives in 1934:—

	Planted 1934. Acres.	Total Plantings. Acres.
Robusta	671	948
Arabica	228	578

On the whole the year from the coffee point of view was fairly satisfactory and yields have well repaid those cultivators who have taken care of their crop. In Bwamba (the declared area under the Native Produce Marketing Ordinance) the holder of the exclusive licence purchased approximately 24 tons of hulled Robusta coffee at an average price of 16½ cents per lb. The industry throughout the District is still in the young stage but it will now extend rapidly since the peasants have obtained security of tenure. Intensive propaganda and demonstration is being carried out to encourage greater activity in regard to proper planting, mulching, pruning, control of pests, and the preparation of the crop for the market. Antestia was very prevalent during the year on arabica but Stephanoderes though common appears to be decreasing in numbers.

Ankole.—The Arabica coffee industry in the Ankole District is extending steadily. An area of 773 acres was planted in 1934 as compared with 796 acres in 1933. The approximate total acreage is over 3,250 acres. Good crops were harvested during the year and sales amounted to 191 tons. The total crop was in fact slightly over 200 tons but it could not all be dried in time for sale during the year. The quality of the crop in this District is much higher than in Buganda the growers taking greater care in its preparation. It usually commands from 1 to 2 cents per lb. more than the price offered in Kampala for Buganda grown Arabica. Antestia was again prevalent in many areas and it was necessary to organise gangs for hand picking the pest. Stem Borer was found in a few places and was strictly dealt with. The District is a "declared area" under the Native Produce Marketing Ordinance, and the crop is being purchased under non-exclusive licences at gazetted markets.

Kigezi.—Approximately 200 acres of arabica were planted in 1934. The total area under coffee, all arabica, is estimated to be 500 acres. The nurseries were re-organised and enlarged to supply eventually 100 trees per taxpayer. The quantity marketed during the year was 28 tons. The District is a "declared area" for coffee.

Buganda.—In Mengo and Masaka Districts the gombolola nurseries were replaced towards the end of the year by a smaller number of large central nurseries run by paid labour with funds supplied by the Native Administration. It was found that in the majority of cases the gombolola nurseries were unsuitable owing to the irregular and uncertain free labour supply. It is hoped to produce in these central nurseries sufficient plants to meet the increasing demand.

The natives are very keen to plant more coffee and great care will be necessary to ensure distribution of plants to reliable cultivators. Similar nurseries will be established in the Entebbe and Mubende Districts as and when funds permit. Nganda seed derived from selected trees is being used in preference to robusta. Nganda is a more suitable type for native cultivation being a longer living tree and needing less attention.

Owing to the lack of plants the acreage was not increased to any appreciable extent during the year. The crops were not as heavy as usual owing to over-bearing in the previous year. Unfortunately the figures of sales per district are not available. As already stated there is no organised marketing of coffee in this Province. The crop is sold to local dealers and cured at the various Curing Works. The returns of the coffee treated by the Curing Works, given above, include coffee purchased in Buganda, Toro, Ankole and Kigezi and also estate grown coffee not exported under the estate's own mark. It is therefore impossible at present to give buying returns for each district.

TOBACCO.

The Tobacco Officer's report on tobacco in Bunyoro will be found on pages 33—35.

West Nile.—The following extract from the report of the Agricultural Officer explains progress during 1934.

"During 1934 tobacco cultivation in the West Nile emerged from the small experimental stage, and commenced to grow into an industry of considerable economic importance.

Previous to 1934, the largest crop bought was about 5,000 lbs. The crop planted in September, 1933, and bought in March, 1934, amounted to nearly 20,000 lbs., whilst that planted in April, 1934, and bought in September the same year, totalled about 140,000 lbs. In addition an attempt was made to grow a further 100,000 lbs. during the latter half of 1934, as the tobacco was urgently needed. Had there been normal weather conditions this could easily have been produced, but a most unusual dry spell of six weeks' duration in September and October has caused the crop to be estimated at about half the required amount. However, this crop was only planted for what could be obtained from it, and it is not intended to grow tobacco during the latter half of the year in future.

In regard to the crop planted early in 1934, there were about 350 acres, all in Koboko County. Weather conditions were reasonably good during the growing period, but abnormal rains fell during August, whilst the leaves were in the barns, with the result that "pole burn" was present, but not to such an extent as might have been expected. However, this put up the percentage of No. 2 quality which was further increased by growers disobeying instructions and damaging the leaf by handling it when very dry. Grading needs considerably more attention, and there is a tendency to pick the leaf before it is ripe as each man is anxious to get his tobacco in the barn before the other men fill it.

Purchases at Koboko from the first 1934 crop were:—

				Shs.	*cts*
No. 1 quality	...	64,099 lbs. at 25 cents	...	16,024	75
No. 2 quality	...	75,731 lbs. at 15 cents	...	11,359	65
Total	...	139,830		27,384	40

Counting the produce of two barns burned, the average yield per acre was 416 lbs., and the average amunt of money received per grower was Shs. 27/50.

There was considerable difficulty in inducing the growers to listen to advice in regard to all the various operations connected with tobacco cultivation, but it is hoped that now that many people have obtained good money, they will work harder, and be more ready to listen to advice in the future. In order to introduce the crop into new areas, with a view to expansion later, a small proportion of the second 1934 crop was planted near Arua and in Terego County".

TEA.

Kigezi District.—Five small trial plots of tea have been started at suitable centres for observations on growth and quality. At the end of the year the stand was very poor and growth very slow. A considerable amount of replanting will be necessary in 1935.

FOOD AND MINOR CROPS.

Food was scarce in many areas in 1934. The early crop gave very poor yields owing to the drought. It became necessary in the Masaka District to send a small quantity of dried food from Buddu to Kabula and Ntuzi. In the south of the West Nile District considerable damage to young crops was caused by grasshoppers, and numerous resowings had to be made. The position was fairly satisfactory everywhere at the end of the year, the late crops giving good yields, and the cassava reserve becoming available.

The Linseed field trials in the West Nile gave a yield of 372 lbs. per acre in February, 1934, and 130 lbs. per acre in the latter half of the year. Further trials will be continued in 1935, to determine whether the crop is sufficiently remunerative for native cultivation.

In the Ankole District 34,244 lbs. garlic, and 6,132 lbs. onions were sold locally during the year. Onions do remarkably well in Bukanga.

Small quantities of wheat and rice were again produced in Toro for the local Market.

LOCUSTS.

There was only a mild invasion of locusts in 1934. A few scattered swarms of the Hairy-Chested passed through the area at various times of the year without causing much damage. Where egg laying occurred, the resultant hatchings were mostly over small areas, and were easy to deal with. A few swarms of the red locust appeared in the Western Province, and eggs were laid on two occasions, in January and November, in Ruampara County in Ankole, these again being destroyed by the local inhabitants. The flying swarms of the red variety caused slightly more damage to crops than the Hairy-Chested.

PESTS AND DISEASES.

On cotton the main pest and diseases during the year were Pink Bollworm (*Platyedra gossypiella*), Blackarm and Wilt (*Fusarium* sp.). None of these caused very serious damage except Blackarm which caused considerable shedding of bolls in certain localities in December. Reference has already been made to the area infested by Pink Bollworm, and the attempts made to retard its spread and reduce its incidence by the control of the movement of raw cotton, and the destruction of cotton seed. Wilt appeared to be more common during the year, a few infected plants being found on most plots.

On coffee the bug Antestia was again very prevalent on Arabica in the Western Province. Stephanoderes was common everywhere, but not to such an extent as in the previous year.

The banana Weevil (*Cosmopolites sordidus*) continues to spread rapidly throughout the plantain growing areas in Buganda. This pest will wipe out the plantain crop unless more concerted efforts are made to check its spread. The natives admit that the incidence of the

pest is due to the neglect of the gardens, and that the Weevil can be controlled by proper attention to the usual cultural methods. Instead, however, of carrying out these practices, new areas are planted when food becomes scarce, and these again become infected within a very short time. It would appear that little will be done until the Buganda Government take legal steps to enforce necessary action.

NATIVE PRODUCE MARKETING ORDINANCE.

In addition to the remarks already made under "Coffee" it is necessary to add that during the year the districts of West Nile and Bunyoro were declared "declared areas" under the Native Produce Marketing Ordinance in respect to sim-sim and groundnuts. These crops will be marketed only at gazetted centres, and it is hoped that this measure will encourage the production for sale of these minor economic crops.

It was found necessary during the year to amend the Ordinance to prohibit the movement out of a declared area, prior to sale, of any specified native produce grown in the area. This amendment was due to the leakage of tobacco from the Bunyoro District, and the discontent caused amongst growers by the action of various unlicensed dealers. Owing to the local demand for tobacco it appears that growers were promised a higher price for unsaleable rubbish leaf than they would receive for the best quality tobacco. This offer influenced certain growers to avoid selling locally, and also to neglect the curing of their crop, since it was anticipated that no particular grade was required. Since the local demand was merely temporary, and as it is in the interests of growers to maintain the standard of quality, the Ordinance was amended to ensure that tobacco and other crops would be marketed within the declared areas.

AGRICULTURAL DEVELOPMENT IN BUGANDA.

Since the Buganda Province constitutes the biggest productive unit in this Division, and since special reference to its agriculture has been made in previous reports it is not out of place to refer again to this unit on its own.

The most important advance made by the Buganda Government during the year was the allocation of funds for agricultural development within the Province. With these funds it was possible, with the staff available, to establish central coffee nurseries in Mengo and Masaka Districts. In addition to this initial contribution, the Ministers also shewed an increasing willingness to co-operate with the Department, and to carry out any propaganda work which had been approved.

The Muganda Agricultural Adviser to the Native Government proved a most useful liaison officer, and his work in the field was also most helpful. An example of the value of close co-operation by the Ministers was seen during the cotton planting season when, owing to the scarcity of immigrant labour, it was feared that a normal acreage would not be cultivated. The intensive propaganda carried out by the Ministers on this occasion and the sane advice which they gave the people resulted in an increased acreage.

Within the Province itself the most important improvement was the closer spacing of cotton in the Mengo District. The average spacing of the 1934 plantings works out at 1,852 square inches per plant as against 2,046 square inches in 1933. Although the optimum spacing requires only 864 square inches per plant this improvement is equivalent to an increased yield of 70 lbs. per acre.

Another feature worthy of mention is the growing tendency for growers to form bibina bya balimi (co-operative societies). In a few cases the members of such societies hold monthly meetings to discuss what crops they should grow, but the object of the majority is to obtain better prices through collective selling of large quantities, which are more attractive to dealers who are thus assured of a full lorry load of produce at a given centre. These societies rise and fall, but no doubt they will in time be established on a sound foundation. At the moment a kibina kya balimi is a sign that producers are dissatisfied with the present marketing system.

Whilst these improvements are hopeful signs it is disappointing to have to report that such little progress is being made in other directions. The soil is still being neglected, and hardly any measures were taken by natives during the year to improve soil fertility or to prevent erosion. Simple measures such as the mulching of coffee, the planting of cotton in rows across the slopes, and the proper care of the plantain gardens are all forgotten during the urge to plant large areas which later become out of hand. The yield of cotton from the same area could, without additional effort, be doubled by mere attention to spacing, and likewise a small, properly managed coffee plot would produce more profit than a large neglected area. The soil erosion which has occurred on plots of established coffee is so serious that many plots have had to be abandoned as unproductive, and this ruination of cultivable land is becoming a serious menace.

D. STEDMAN DAVIES,

Acting Senior Agricultural Officer.

ANNUAL REPORT OF AGRICULTURAL EDUCATION IN UGANDA DURING 1934.

As in the report for the previous year, the report is divided into two sections:—

I. Vocational Training in Agriculture.

II. Nature Study in the Elementary and Middle Schools.

I. VOCATIONAL TRAINING IN AGRICULTURE.

(1) Courses for Chiefs.

These courses are planned to give the younger chiefs some knowledge of present-day ideas about agriculture, to arouse their interest in the subject, and to put them in touch with the work of the Agricultural Deparment. They cannot be spared for more than short periods from their work, so the length of the course is limited to two or three months.

The following courses were held during 1934:—

At Bukalasa the course started on 10th October and finished on 30th November. It was attended by two Gombolola and eighteen Miruka Chiefs from Buganda, Bunyoro and Busoga (nine Baganda, three Banyoro and eight Basoga). The course of instruction included lectures and demonstrations on soil exhaustion, soil erosion, mulching, manuring, cover crops, plot measurement, crop estimation, common local insect pests and their control, the lay-out and management of smallholdings, and the work of a chief with special reference to agriculture. The officer in charge of the course states that the chiefs showed great keenness in everything that was taught them.

The course at Serere lasted from 8th October to 30th November. It was attended by twenty-seven chiefs from the Teso, Budama and Bugishu Districts of the Eastern Province, and from the Gulu, Chua, Lango and Bunyoro Districts of the Northern Province. The course covered much the same ground as that at Bukalasa. The chiefs who attended were interested, and appeared to derive a good deal of benefit from the course.

(2) Smallholders' Courses.

Serere.—The three twelve-acre holdings that were started in 1933, have made good progress during the year and good crops were harvested. There were nine pupils, three on each holding, and they did all the work of the holding, with the exception of the herding of the cattle. Lectures were given in the afternoons, except in the busy seasons. Practical instruction was given daily on the holdings, and included such things as management, the training of oxen, the use of an ox-drawn sledge for haulage purposes, the making of compost, farm carpentry, and rope making.

The Agricultural Officer in charge of the course reports that, although the pupils worked hard, and took an interest in their work, better results could have been obtained if the pupils had been rather better educated. This batch of pupils was slow in appreciating the objects of the course, and was not disposed to accept new ideas or to try new methods.

It is interesting to note that the married men, whose wives accompanied them, settled down better, and worked harder than the bachelors.

The nine pupils finished their course at the end of the year. The sites at which they propose to set up holdings of their own were inspected and approved by the Agricultural Officer. These are all near a road, and subsequent supervision will thus be facilitated. Of the eight Teso pupils, seven will receive a loan of from Shs. 200 to Shs. 300 from Native Government funds to enable them to make a start. The eighth was not considered to be of a sufficiently stable character to justify the granting of a loan. The one Acholi pupil has returned to his home village in Gulu District, where he is starting a holding of his own.

Three new holdings had been established by the end of the year. Two of these are of eight acres, and will each be worked by a man and his wife. The third holding is of twenty acres, and will be worked by ten bachelor pupils; these will also help with the work on the smaller holdings in the busy seasons. These holdings are similar, on the whole, to those started in 1933, but embody such improvements as have been suggested as the result of two years' experience

in the working of the original holdings. The steading consists of a house, cattle kraal and calf pen, cart shed, stores, etc. The live stock of each holding comprises a team of four oxen with, in addition, two young oxen to take their places in the team later, two cows and a pen of poultry, consisting of ten native hens and a Rhode Island Red cockerel. The implements provided are: a plough, a small ox-cultivator, a home-made sledge, and the usual equipment of hoes, reaping hooks, fork, etc., and a few simple carpentry tools.

The cropping of the eight-acre holdings consists of an area of six acres for economic crops, on which cotton and groundnuts are grown in rotation with wimbi (small millet); 1½ acres are under a rotation of food crops. A fallow period, under long grass, is adopted in each rotation. Apart from the difference in size, the cropping of the twenty-acre holding is the same as for the smaller holdings.

Pupils for this course will be admitted from all districts in the Eastern and Northern Provinces where an Agricultural Officer is stationed. This proviso is necessary to ensure adequate supervision of the pupils when they start farming on their own. Care is being taken to choose pupils with rather better educational qualifications than those who attended the first course.

Bukalasa.—The two holdings, of twenty-one and thirteen acres respectively, were continued during the year, and the class consisted of fourteen pupils (three having left on account of sickness and other causes). The mornings were spent in the work of the holdings, and the afternoons, except during the busy season, with lectures and records. The pupils have, with few exceptions, worked well, and have taken an interest in their work. They are due to finish their two years' course in two batches, in April and September, 1935, respectively.

During the year the cattle on the larger (mixed farming) holding were attacked very severely by *Stomoxys*, a species of biting fly. This made it impossible to use the oxen for work purposes over a considerable period. It was decided, therefore, to discontinue the use of this holding for teaching purposes after the end of the present course, until such time as efficient means for overcoming this pest can be found. The holding will meanwhile be continued, to investigate the possibilities of mixed farming in this area.

(3) The Training of Agricultural Assistants.

Nine students completed the third year of the Makerere Agricultural Course. The details of the syllabus for this course will be found in the report on Agricultural Education for 1933. They all satisfied the examiners at the end of the year, and will be allowed to proceed to the fourth (practical) year in 1935.

Seven students completed the fourth year of the course. This year is spent in gaining practical experience on the Government farms at Bukalasa and Serere. They were given a good grounding in all of the various departments of work at these centres, including the organisation of labour, the keeping of labour records, field experiments, the management of smallholdings, etc. Very good reports on the work of five of these students were obtained from the officers under whom they worked. The other two students were reported upon unfavourably, and will be required to take the fourth year of the course again.

The practical side of this course was slightly re-organised during the year. In future the fourth and fifth years of the course will be spent in practical work at Bukalasa and Serere, so as to allow the students to see a full year's work at each centre. All the lectures and laboratory work in agriculture, and applied sciences will be taken during the third year. A course of lectures (of about two hours a week) will, however, be given throughout the two "practical" years, to show the bearing of the theoretical work on the practical problems encountered in the field.

(4) The Training of Departmental Instructors.

Short courses for the field instructors of the Agricultural Department, and for those in training for this work, were again given at Serere and Bukalasa.

Serere.—Eleven pupil instructors attended a joint course with elementary school teachers from 4th June to 31st August.

At *Bukalasa* a course was held from 28th July to 1st September, and was attended by fourteen candidates, ten of whom were ultimately selected for work in the Department.

The instruction given in this course was elementary, and was kept as practical as possible. It included the principles of good husbandry, the laying out and measurement of plots, the identification of common pests and diseases of cotton and other crops, and the writing of simple reports.

II. NATURE STUDY AND ITS APPLICATION IN THE ELEMENTARY AND MIDDLE SCHOOLS.

Short courses of two or three months duration were given to teachers from Middle, Central and Elementary Schools, as follows:—

Bukalasa.—A course from 15th February to 12th May was attended by nineteen Middle and Central school masters from districts west of the Nile.

A course for Elementary school teachers was held from 30th June to 1st September, and was attended by twenty-eight teachers.

Serere.—A course for Elementary school teachers was held from 4th June to 31st August, and was attended by seventeen teachers.

These courses are intended to show how Nature Study should be taught in the schools, and the way in which the best use can be made of the available material. A model school garden is maintained at each centre; this is worked by the pupils themselves. This subject has always been found difficult to teach effectively by African teachers in this country, and these courses have undoubtedly done something to raise the standard of nature study teaching in the schools. The standard is, however, still very low, and there remains much room for improvement.

Inspection of Schools.

It has not been found possible to devote as much time as usual to this work during 1934, for two reasons: In the first place the Agricultural Officers (Education) have undertaken a certain amount of district agricultural work, in addition to their educational duties. In other respects the results of this have been altogether good, as it has kept them in close touch with the general work of the Department. Secondly, the Superintendent of Agricultural Education was on leave during the greater part of the year. Also, owing to the increased number of courses held at Bukalasa (*e.g.*, in the month of August sixty-one pupils were attending various courses at this centre), it has been found necessary to retain there, two African Agricultural Assistants, who would otherwise have been available for school inspection.

The following inspections were carried out:—

Middle and Elementary Schools, and Grade "C" Training Centres in Bunyoro, during March.

Elementary Schools, Teso, in May, June and September.

Elementary Schools in the Mengo District of Buganda in June, July and September.

Elementary Schools in Busoga, throughout the year. The Agricultural Officer (Education), Serere, notes that the nature study, and school garden work in the schools inspected by him was, in the majority of cases, progressing favourably, and that more keenness was being shown towards these subjects. At the same time, teachers still do not give enough time to practical teaching and to out-door demonstrations.

Reference was made in the report for 1933, to the re-organisation of work in the Grade "C" Teachers' Training Centres. The inspection of these centres was completed by the end of March, 1934, and detailed plans of work were made out for each school.

Smallholdings' Schemes under Mission Authorities.

Namutamba Farm School (Church Missionary Society).

This scheme, which was started in 1933, with a grant from the Protectorate Government of £800 per annum for an initial period of three years, was developed and expanded during 1934. A new Head Master was appointed during the year. Twenty-one pupils were admitted for the 1934-35 courses, five of whom were found to be unsuitable, and have since left. The area under cultivation at the end of the year consisted of two acres of robusta coffee, two acres of arabica coffee, three acres of cotton, and one acre under fallow, after maize, prior to bulo. Two one-acre paddocks have been marked out. The farm possesses twenty cows and calves, six working bullocks, and a number of poultry and rabbits.

The Gulu Farm School (Verona Fathers Catholic Mission).

This was started in 1933, with a grant from Government similar to that given to Namutamba. The farm is being organised as a group of smallholdings, the lay-out and working of which is based on the plan of the Serere smallholdings. Two holdings were in operation during the year, and on these twelve students had completed the first year of the two-year course by the end of 1934. A third holding was nearly completed during the year, and a fourth had been started.

GENERAL.

Meetings of the Buganda Provincial Educational Council, and of various District Educational Boards were attended by members of the staff of this Division during the year.

School examinations in nature study were conducted during the year.

In October, I attended a conference on agricultural education in Uganda, which was held at the Colonial Office, over which the Agricultural Adviser presided.

I wish to acknowledge the helpful assistance and co-operation of the Honourable the Director of Education, and the Director of Veterinary Services, and of members of their Departments.

E. G. STAPLES,

Superintendent of Agricultural Education.

ANNUAL REPORT OF THE TOBACCO OFFICER, 1934.

I was stationed in Bunyoro for the whole of the year.

Mr. Hazel proceeded on leave in January, and was away until the end of November.

Work during the year was devoted almost entirely to the supervision of the native tobacco crop in Bunyoro.

The demand for tobacco from this area, chiefly for use by local factories for the manufacture of shag and cigarettes, which compete mainly with manufactured tobacco imported from the Netherlands, has increased rapidly during the last few years.

The area planted in 1934, was 2,600 acres, from which a crop of 1,469,142 lbs. of cured leaf was obtained.

In 1933, the area planted was 1,700 acres, and the crop 768,804 lbs.

Prices for the season were fixed at 26 cents per lb. for No. 1 grade, and 16 cents for No. 2 grade—an increase of 1 cent per lb. over the previous season.

Growers received a total of Shs. 306,384/72, an average of 20·85 cents per lb., compared with an average of 19·19 cents in 1933.

Weather conditions were again extremely difficult. The rainfall during the first half of the year was roughly six inches below average; the shortage being chiefly during March and April, just at planting time, and great difficulty was experienced in establishing a good stand of plants in the field.

In some areas a large proportion of the crop was planted with water—a slow and tedious process—and it was surprising to find the growers turning out readily for this work.

Unusually wet conditions prevailed during June and July, when the crop was ripening and being harvested, and the quality of the leaf suffered somewhat from the unfavourable conditions.

The loss from "pole-burn," due to the exceptionally moist conditions at curing time, was fairly heavy.

Hail did a good deal of damage in one or two localities, but luckily, hail-storms are usually very local, and damage is confined to very small areas.

No serious diseases or pests appeared during the year.

The chief difficulty experienced has been with regard to grading.

The large increase in the demand for tobacco which has taken place every year since the industry was started in 1927, has not given us a chance to consolidate our work and devote sufficient time to instruction in this important operation.

Our work during the year, in this direction, was complicated by an unusual and quite unexpected feature, due to the sudden establishment of several new local factories, some of which were unable to arrange for supplies of leaf.

The desire to obtain leaf of any description was so keen, that on one occasion there was actual interference with the growers in Bunyoro by some person, who toured the area, and advised growers not to carry out the instructions given regarding topping, priming and discarding of poor leaf, stating that he would return and be willing to purchase all leaf produced.

This action undermined a good deal of our work, particularly with regard to grading, and naturally, led to a good deal of suspicion amongst the growers, most of whom cannot understand the necessity for careful grading.

The local manufacturers can, no doubt, utilise a good deal of low grade leaf, but our aim must be to produce as high grade leaf as possible if the industry is to be established on a sound basis, and any action which is likely to encourage the production of low grade leaf is likely to be highly detrimental to the interests of the growers themselves.

Grading is not difficult, and if done properly, well repays the grower for the time spent on it, and the amount of low grade leaf which normally has to be discarded is comparatively small.

A grower who carries out instructions can usually obtain at least Shs. 40 from a plot of one-third of an acre and the discarding of, say, 10 lbs. of poor leaf, which may possibly be worth 5 cents per lb. cannot be regarded as a hardship.

At first sight, from the producers' point of view, the increasing demand for tobacco appears to be all to the good, but the local market for manufactured tobacco is by no means unlimited, and in spite of the increasing demand, it would appear that we are very near the point of over-production.

Production in Uganda during the year under review is estimated at approximately 1,850,000 lbs. made up as follows:—

Bunyoro (Native)	1,469,142 lbs.
,, (European)	20,000 ,,
,, (Indian)	4,600 ,,
West Nile (Native)	150,000 ,,
Buganda (All sources)	200,000 ,,

Of this, approximately 150,000 lbs. will be exported to the United Kingdom and 300,000 lbs. to neighbouring territories, from whence a large proportion will return to Uganda in the form of manufactured tobacco.

This leaves approximately 1,400,000 lbs. for use by local factories in Uganda, and it appears doubtful if local consumption, plus exports of manufactured tobacco, are anywhere near that figure.

Demands for the future extension of tobacco production will need very careful consideration before natives in any district are encouraged to take up the crop, as once production by natives has been encouraged, considerable discontent is likely to be aroused if the crop has to be abandoned, either through lack of markets or from any other cause.

As from June, 1935, the West Nile District, in addition to Bunyoro, will be made a "declared area" under the Native Produce Marketing Ordinance, and Governor's licences will be granted for the purchase of leaf tobacco in both areas.

Plantings are controlled to supply the demands of buyers licensed under the Ordinance who have to state the quantities they will be prepared to purchase before any planting takes place.

This guarantees a market to all growers who produce reasonably good leaf.

Under the Ordinance, a cess of 2 cents per lb. is paid by buyers on all native-grown leaf tobacco purchased in Bunyoro, and the money so collected is paid into a fund to be used for the benefit of the tobacco growing industry.

A scheme was inaugurated during the year to provide for the payment of compensation, from cess funds, for tobacco accidently destroyed by fire during curing operations.

Curing is carried out in barns erected communally by groups of growers. This facilitates supervision, but it sometimes happens that a barn is burnt owing to the carelessness of the man left in charge, and this has meant a dead loss to the other members of the group.

Under the scheme, growers will receive compensation up to Shs. 15 per plot (40 yards by 40 yards), if the whole of their tobacco is destroyed.

Seventy-five people will receive compensation for tobacco lost during 1934, at rates varying from Shs. 5 to Shs. 45 per man. Of these seventy-five, fourteen people lost their tobacco owing to their barn being struck by lightning.

In some quarters there is a feeling that the compensation is too small, but this is an entirely new scheme, and it will be necessary to watch its working closely before payments on a more generous scale are made, and it is preferable to commence at a rate which may possibly be increased later, rather than one which might have to be reduced.

180 tons of tobacco were packed at the Government Packing Factory at Masindi during the year.

The work carried out has been very satisfactory, and the following extract from a broker's report on one consignment of thirty bales packed and shipped to London is of interest:—

> "The tobacco seems to be quite useful quality of the type, and we are glad to say that the condition is satisfactory, the moisture content being just about right. We mention this point as we have heard reports of shipments arriving from Uganda some time ago with excessive moisture in the tobacco, and as you will no doubt appreciate, manufacturers here are very particular about this, not only from the point of view of the tobacco keeping in sound condition, but also on account of the high rate of duty on tobacco entering this country".

A large manufacturing firm to whom a trial shipment of seven bales was sent reported:—

"All seven bales were well packed, clean and free from sand. The moisture content was quite satisfactory. The average test of each bale varying from 12·6% to 13·2%".

The Factory was enlarged during the year, but the new portion was not in full working order before the end of the year.

The extension will enable some eighty tons per month to be dealt with.

Production of fire-cured tobacco in the West Nile District has increased, and some samples received from that area indicate that the natives there are showing increasing interest in the crop.

Some very good "White Burley" leaf was produced on experimental plots in that district, and there is every indication that tobacco of this type, suitable for the home market, could be produced in that area.

Experimental plots of tobacco have been grown in several areas in the Eastern Province during the year, and some very promising samples of air-cured leaf have been produced.

During the year, exports of unmanufactured tobacco from Uganda amounted to 912,346 lbs.

G. T. PHILPOTT,

Tobacco Officer.

Native Agriculture—Estimate of Approximate Acreages of Crops Under Cultivation, 1934.

Province and District.	Plantains.	Potatoes.		Millets.		Cotton.	Coffee.		Maize.	Beans.	Sugar cane.	Simsim.	Groundnuts.	Cassava.	Tobacco.	Wheat.	Rice.	Chillies.	Peas.	Miscellaneous.
		Sweet.	English.	Mtama.	Wimbi.		Arabica.	Robusta.												
	Acres.																			
Buganda :—																				
Mengo	300,000	79,000	2,000	2,100	950	227,223	150	3,700	5,000	15,000	...	5,000	14,000	80,000	...	...	...	70	...	3,000
Entebbe	93,589	31,530	929	1,990	210	87,395	300	5,300	10,617	13,217	2,116	619	9,315	20,516	822	2	6	263	510	6,574
Masaka	45,500	18,800	350	1,250	350	50,756	2,200	5,600	5,900	20,000	200	200	14,000	12,000	2	18	50	500	...	300
Mubende	50,000	74,000	100	3,000	10,000	59,857	300	3,500	2,000	25,000	400	5,000	10,000	40,000	100	...	5	15	1,000	...
Totals ...	489,089	203,330	3,379	8,340	11,510	425,231	2,950	18,100	23,517	75,217	2,716	10,819	47,315	152,516	924	20	61	848	1,510	9,874
Eastern :—																				
Busoga	166,029	30,861	2	1,326	67,979	233,996	2	24	18,678	17,240	218	3,952	13,955	17,788	10	...	7	95	21	2
Budama	39,234	8,824	...	4,531	75,781	72,154	...	...	1,335	28,599	21	2,505	3,348	20,036	2	...	...	...	...	...
Bugwere	43,206	14,109	...	7,995	135,752	129,241	8	2	2,410	18,680	70	2,488	6,475	17,402	1	...	128	...	29	2,872
Bugishu	155,090	11,033	487	3,834	62,511	45,579	4,013	...	10,427	16,183	740	1,434	850	28,014	62	...	...	16	810	...
Teso	566	37,700	1	68,540	182,559	112,326	...	...	...	25,913	210	23,378	46,012	33,095	...	...	150	...	...	...
Karamoja	...	400	...	13,000	1,000	...	...	...	10	100	...	400	500	10	500	...	...	...	...	...
Totals ...	404,125	102,927	490	99,226	525,582	593,296	4,023	26	32,860	106,715	1,259	34,157	71,140	116,345	575	...	285	111	860	2,874
Northern :—																				
Lango	80	8,058	...	66,328	97,750	78,440	...	..	1,202	2,706	...	44,905	6,727	7,684	...	...	...	...	8,655	...
Bunyoro	10,000	30,000	500	10,000	20,000	28,000	5	200	2,000	15,000	...	20,000	6,000	25,000	2,600	...	...	...	5,000	...
Gulu	500	9,000	34	10,000	24,000	21,800	3	...	340	2,700	245	25,000	2,500	8,500	100	...	75	...	...	...
Chua	...	3,500	...	10,000	75,000	21,107	...	...	...	1,000	...	25,000	2,500	11,000	...	...	...	...	...	...
West Nile	150	25,000	125	62,000	95,000	7,137	62	4	600	28,000	100	40,000	6,000	30,000	850	1	100	20	10,000	200
Totals ...	10,730	75,558	659	158,328	311,750	156,484	70	204	4,142	49,406	345	154,905	23,727	82,184	3,550	1	175	20	23,655	200
Western :—																				
Toro	41,047	18,058	447	292	22,268	10,588	578	948	11,242	10,976	...	823	2,113	11,633	...	356	711	...	866	...
Ankole	33,000	42,514	62	9,903	32,861	...	3,250	...	6,292	26,998	...	7	666	915	505	2	...	...	4,351	...
Kigezi	5,000	40,000	1,000	30,000	30,000	...	500	...	10,000	40,000	20	100	50	500	10	20	5	...	20,000	100
Totals ...	79,047	100,572	1,509	40,195	85,129	10,588	4,328	948	27,534	77,974	20	930	2,829	13,048	515	378	716	...	25,217	100
Grand Totals ...	982,991	482,387	6,037	306,089	933,971	1,185,599	11,371	19,278	88,053	309,312	4,340	200,811	145,011	364,093	5,564	399	1,237	979	51,242	13,048

Total 5,111,812 Acres.

Note:—The Total of 5,111,812 acres is not an accurate indication of the total area under cultivation since interplanted areas are counted once under each crop concerned, and the same ground may be used during the year for a different crop each season.

Appendix No. 2.

Livestock, 1934.

Province and District.	Cattle.	Sheep.	Goats.	Donkeys.
BUGANDA :—				
Mengo	72,847	34,607	228,427	...
Entebbe	28,285	10,368	63,413	...
Masaka	57,544	13,146	51,908	...
Mubende	33,093	10,568	85,372	...
TOTALS ...	191,769	68,689	429,120	...
EASTERN :—				
Busoga	140,332	40,253	262,461	...
Budama	92,230	21,351	68,971	3
Bugwere	124,119	32,071	136,471	12
Bugishu	142,430	74,000	140,817	42
Teso	346,566	45,349	124,712	...
Karamoja	241,275	489,353	281,227	23,806
TOTALS ...	1,086,952	702,377	1,014,659	23,863
NORTHERN :—				
Lango	381,059	97,825	177,219	...
Bunyoro	9,196	21,173	82,232	...
Gulu	50,184	21,652	39,124	...
Chua	45,873	23,813	13,864	...
West Nile	145,313	43,109	148,388	...
TOTALS ...	631,625	207,572	460,827	...
WESTERN :—				
Toro	50,389	42,811	88,344	...
Ankole	170,492	183,466	303,995	...
Kigezi	92,000	100,000	140,000	...
TOTALS ...	312,881	326,277	532,339	...
GRAND TOTALS ...	2,223,227	1,304,915	2,436,945	23,863

Appendix No. 3.

European Agriculture, 1934.

Province and District.	Total Acreage cultivated.	Coffee.		Para Rubber.	Tea.	Cotton.	Tobacco.
		Arabica. acres.	*Robusta.* acres.	acres.	acres.	acres.	acres.
BUGANDA:—							
Mengo	12,408	2,063	4,498	6,964	634	30	...
Entebbe	1,912	82	498	1,299	80	...	...
Masaka	961	357	446	210	28	...	...
Mubende ...	1,002	367	190	...	445	...	..
TOTALS ...	16,283	2,869	5,632	8,473	1,187	30	...
EASTERN:—							
Busoga	512	147	322	73	...	...	...
Bugishu	50	50	...	...	...	...	...
TOTALS ...	562	197	322	73	...	...	...
WESTERN:—							
Toro	2,458	2,379	46	...	33	...	...
NORTHERN:—							
Bunyoro	2,328	800	701	944	...	...	...
West Nile ...	165	155	...	...	...	...	10
TOTALS ...	2,493	955	701	944	..	...	10
GRAND TOTALS ...	21,796	6,400	6,701	9,490	1,220	30	10

NOTE:—2,035 acres are interplanted areas.
Compiled from 181 Returns.

Appendix No. 4.

Asiatic Agriculture, 1934.

Province and District.	Total Acreage cultivated.	Coffee.		Para Rubber.	Sisal.	Tea.	Sugar Cane.	Cotton.	Tobacco.
		Arabica. acres.	*Robusta.* acres.	acres.	acres.	acres.	acres.	acres.	acres.
BUGANDA:—									
Mengo ...	6,055	...	105	310	...	30	5,600	10	...
Entebbe ...	...	...	...	..	...	...	...	...	...
Masaka ...	365	5	90	170	...	...	100	...	...
Mubende ...	65	...	25	...	...	40	...	...	...
TOTALS	6,485	5	220	480	...	70	5,700	10	...
EASTERN:—									
Busoga ...	6,142	...	25	700	...	...	5,382	35	...
WESTERN:—									
Toro ...	40	40	...	...	...	...	...	...	...
NORTHERN:—									
Bunyoro ...	4,810	...	...	...	4,800	...	...	...	10
GRAND TOTALS	17,477	45	245	1,180	4,800	70	11,082	45	10

Compiled from 35 Returns.

Table VIa.—Comparative Statement for the Years 1930—1934 of the Exports of Domestic Produce from the Uganda Protectorate.

	Unit of Quantity.	Quantity. 1930	1931	1932	1933	1934	Value. 1930	1931	1932	1933	1934	Position in 1934 Compared with 1933. Increase. Quantity.	£	Decrease. Quantity.	£
							£	£	£	£	£				
Maize	*Cwt.*	560	603	1,439	1,620	55	128	85	294	287	14	...	...	1,565	273
Other grain and flour	,,	3,344	1,591	471	3,247	6,324	1,631	323	138	822	1,359	3,077	537	...	...
Feeding stuff for animals	*Ton*	206	37	226	389	272	1,180	139	831	1,368	573	...	...	117	795
Chillies	*Cwt.*	3,078	2,814	2,235	2,791	2,906	7,573	5,515	3,866	3,947	4,631	115	684	...	...
Coffee, hulled	,,	46,131	68,775	86,358	100,116	153,556	148,577	159,442	222,124	210,161	292,205	53,440	82,044	...	...
,, parchment	,,	1,872	1,121	518	273	602	5,110	1,864	860	437	1,004	329	567	...	...
,, unhulled	,,	853	94	201	55	140	1,308	83	178	40	104	85	64	...	...
Sugar, refined in bulk	,,	6,669	44,995	41,049	144,229	294,685	8,719	46,576	45,012	128,802	240,593	150,456	111,791	...	...
Tea	,,	9	26	117	269	247	84	130	567	1,355	1,427	...	72	22	...
Cigarettes and tobacco	*Lb.*	144,367	...	...	...	...	10,949	...	...	...	...	...	...	...	...
Cigarettes	,,	...	46,474	67,300	49,890	64,848	...	12,345	18,190	13,378	11,737	14,958	...	...	1,641
Tobacco, manufactured	,,	...	275	6,353	10,385	10,057	...	45	1,045	1,412	1,309	...	...	328	103
,, unmanuctured	,,	...	133,322	153,794	469,750	912,346	...	5,140	6,925	16,338	26,307	442,596	9,969	...	...
Other articles of food and drink	*Value*	...	...	...	...	...	451	713	1,263	1,572	1,483	...	...	...	89
Timber	*Cub. ft.*	2,501	3,697	9,738	15,433	31,611	602	725	2,245	3,438	8,204	16,178	4,766	...	...
Tin ore	*Ton*	352	170	335	428	440	55,300	24,436	47,168	57,503	63,320	12	5,817	...	...
Other ore	,,	...	...	...	10	...	...	...	...	73	60	...	...	10	13
Cotton raw	*Cental of 100 lbs.*	516,489	755,680	829,303	1,179,315	1,142,568	1,555,344	1,503,307	1,584,172	2,682,210	2,927,796	...	245,586	36,747	...
Seed, cotton	*Ton*	33,578	45,435	56,311	81,274	35,689	137,387	149,224	168,366	262,539	85,947	...	...	45,585	176,592
,, sesame	,,	1,416	350	3,597	2,659	1,375	17,963	3,799	43,363	30,382	14,264	...	...	1,284	16,118
Groundnuts	,,	1,289	215	1,455	325	288	15,123	2,076	16,232	3,096	2,583	...	...	37	513
Oils, sesame	*Imp. gal.*	2,522	320	688	2,049	3,938	467	48	80	219	385	1,889	166	..	...
Hides, dry and dry salted	*Cwt.*	21,493	19,799	15,222	13,325	16,036	49,519	36,696	27,682	20,196	27,295	2,711	7,099	...	...
Skins, sheep and goat	*No.*	205,200	130,670	173,094	79,700	83,399	7,670	5,226	6,588	2,150	1,937	3,693	...	...	213
Rubber, plantation, raw	*Cental of 100 lbs.*	6,270	1,334	...	356	3,269	16,814	2,291	...	268	7,111	2,913	6,843	...	...
Ivory, elephant	*Cwt.*	302	405	526	522	453	13,633	16,184	21,547	13,290	12,736	...	...	69	554
Rhinoceros horns	,,	26	...	2	...	2	1,619	30	164	98	97	2	...	...	1
Other unmanufactured articles	*Value*	...	...	...	...	...	730	550	1,148	618	417	...	...	...	201
Miscellaneous manufactured articles	,,	...	...	...	...	...	2,204	788	1,249	2,202	2,133	...	...	...	69
Animals, not for food	*No.*	22	13	7	...	3	301	5	36	...	20	3	20	...	...
Parcel post (local transfer)	*Value*	...	...	...	...	...	66	87	75	57	97	...	40	...	...
Gold bullion	*Oz. troy*	...	69	569	1,083	6,621	...	390	3,470	6,352	36,618	5,538	30,266	...	...
Grand Total		...	...	...	...	...	2,060,452	1,978,262	2,224,878	3,464,610	3,773,766	...	506,331	...	197,175

Net increase in value as compared with 1933—£309,156.

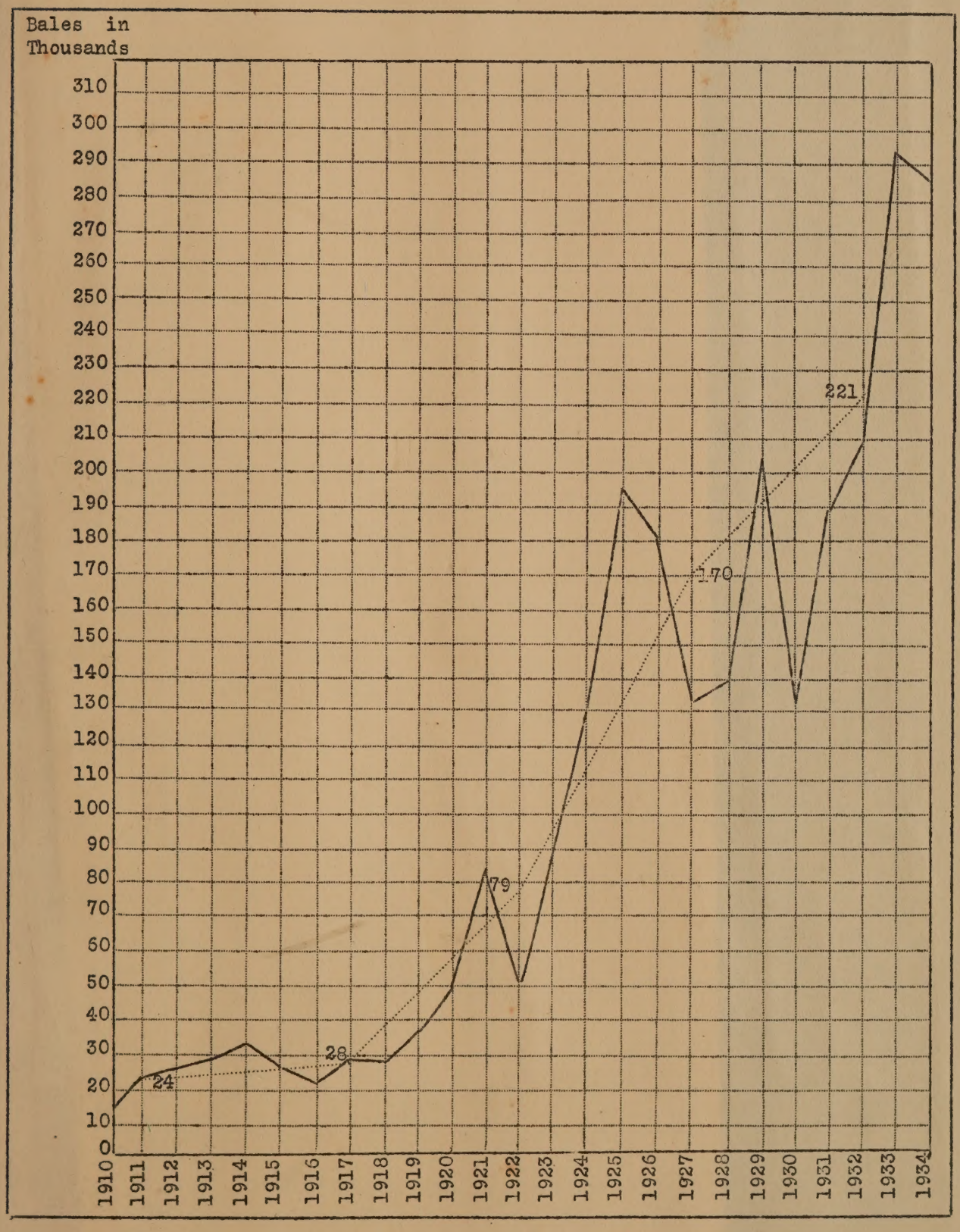
Details of Machinery at Ginneries in the Uganda Protectorate, 1934 Season.

Province and District.	Ginneries.		Total Registered Ginning Capacity Expressed as Single Roller Gins.	Gins.		Seed Openers.	Presses.		Engines.		
				Roller.	Saw.		Hand.	Power.	Steam.	Oil.	Suction Gas.
	Working.	Silent.	Working Ginneries,								
Eastern :—											
Busoga	18	17	563	369(*a*)	...	20	...	18	11	8	...
Budama	6	1	133	101(*b*)	3	6	...	6	1	4	1
Bugwere	10	3	231	154	5	10	1	9	7	2	2
Bugishu	3	1	57	39	...	3	...	3	3	...	...
Teso	15	10	352	209(*c*)	8	15	3	15	5	2	8
Totals	52	32	1,336	872	16	54	4	51	27	16	11
Buganda :—											
Mengo	36	9	619	523(*d*)	...	37	4	32	22	8	7
Entebbe	9	2	189	174	...	11	...	9	12	...	1
Masaka	8	2	158	129	...	8	1	7	8	...	...
Mubende	11	2	131	111(*e*)	...	11	5	6	12	1	...
Totals	64	15	1,097	937	...	67	10	54	54	9	8
Northern :—											
Lango	10	7	265	154(*f*)	6	11	1	10	9	2	2
Bunyoro	3	2	45	32	...	3	1	3	3	...	...
Gulu	4	...	42	42	...	4	2	2	4	...	...
Chua	2	...	25	24	...	2	...	2	2	...	...
West Nile	1	...	20	10(*g*)	...	1	...	1	1	...	...
Totals	20	9	397	262	6	21	4	18	19	2	2
Western :—											
Toro	1	...	6	6	...	1	1	...	1	...	...
Ankole	...	1	7	...	...	...	...	...	...	...	...
Totals	1	1	13	6	...	1	1	...	1	...	...
Grand Totals ...	137	57									
	194		2,843	2,077	22	143	19	123	101	27	21

(*a*) Includes 14 Double Roller Gins.
(*b*) „ 4 „ „ „
(*c*) Includes 10 Double Roller Gins.
(*d*) „ 1 „ „ „
(*e*) Includes 4 Double Roller Gins.
(*f*) „ 26 „ „ „
(*g*) Includes 10 Double Roller Gins.
Total ... 69

UGANDA COTTON PRODUCTION GRAPH

BASED ON EXPORT RETURNS.



Yearly Exports in Bales of 400 lbs. Net. _____

Average Production in 5 year Periods, ending with 1934 .....

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Details of Machinery at Ginneries in the Uganda Protectorate 1924 Season